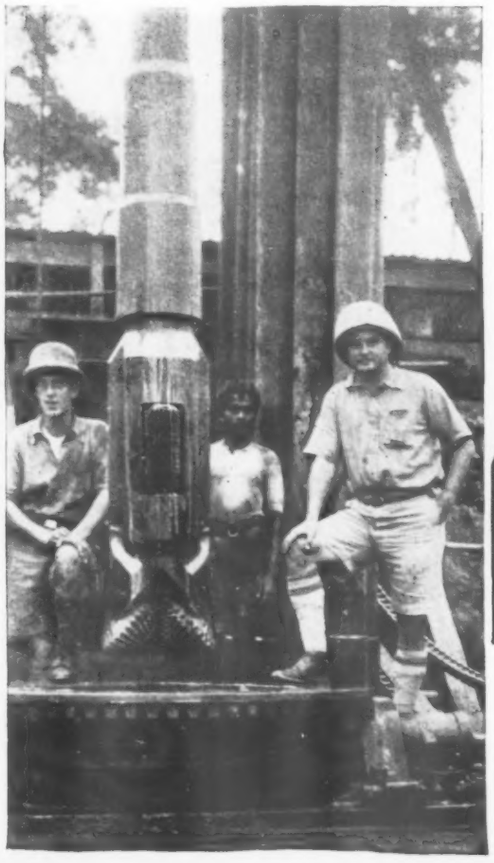
The OIL WEEKLY

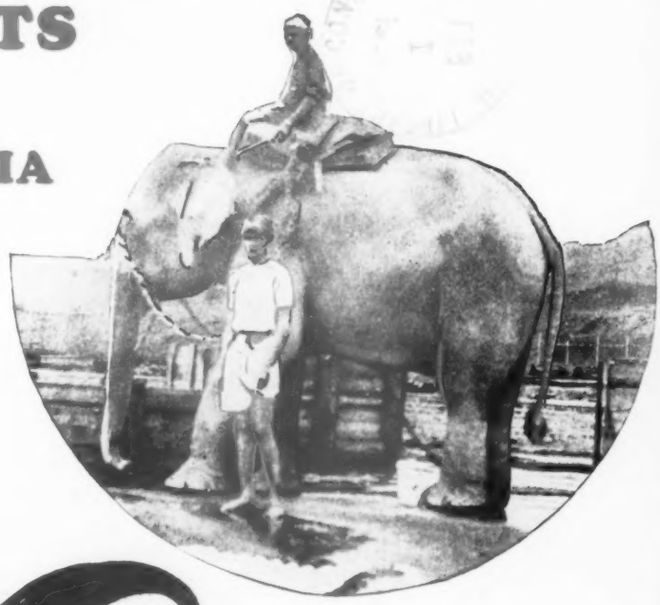
10¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

August 24, 1928 **Volume 50. No. 10**

HUGHES ROCK BITS
and ELEPHANTS
are preferred in
upper **ASSAM, INDIA**





The photograph at the side shows a 15¾" Hughes Simplex Rock Bit ready to go in the hole at well No. 183, of the Assam Oil Company at Digboi, Upper Assam, British India. This bit averaged 11 feet per hour for a total of 96 feet in hard sand rock cemented together with lime. The bit was put in the hole at the shallow depth of 200 feet.
Field Manager J. A. Butlin and Driller Haynes are shown with the bit.

"Jumbo," shown at the top of this page, is used in the warehouse yard of the Assam Oil Company's field in Digboi, Upper Assam, British India.

(By Schroeder)

Hughes Tool Company

Service Plants	*Main Office and Plant*	*Export Office*
Los Angeles, Calif.	HOUSTON	Woolworth Bldg.
Oklahoma City, Okla.	TEXAS	New York City

HOPELESS HOLES

Acme Drilling Tools Help to Prevent Them
Acme Fishing Tools Help to Save Them

ACME Drilling Bit

(Patented) ACME Rasped Mandrel Bit

ACME Three Quarter Spud

IN DRILLING

Each hole drilled with Acme Tools has practical protection from trouble.

IN FISHING

Into each hole where trouble has developed the Acme Fishing Tool takes along 26 years of experience.

IN BOTH DRILLING AND FISHING

In all this time of globe-drilling and globe-fishing ACME has been learning lessons and putting the answers into the tools. No matter what your emergency, Acme makes a tool which has been successful in meeting similar conditions. Put Acme Tools at your task and see how much it is simplified by tools of correct design and construction.

ACME Drilling Stem

ACME Center Spear

ACME Trip Casing Spear

ACME TOOLS

Save Time and Save Holes

ACME FISHING TOOL CO.

Parkersburg, West Virginia.

Export Office: 136 Liberty St., New York City, N.Y.

Warehouses and Distributors:

Acme Fishing Tool Company—Parkersburg, W. Va.
Acme Fishing Tool Company—Omulgee, Okla.
B. & A. Specialty Company—Tulsa, Okla.
Acme Fishing Tool Co. of Tex.—Whittenburg, Tex.
Acme Rental Tool Service Company—Graham, Tex.
Logan Foundry & Machine Company—Logan, Ohio.
The Birnie Oil Tool Works—Owensboro, Ky.
Acme Tool Co.—Breckenridge, Tex.
Acme Tool Co.—Albany, Texas.
Acme Tool Co.—Brownwood, Texas.
Acme Tool Co.—Cross Plains, Tex.
Acme Tool Co.—Fry, Texas.
Acme Tool Co.—McCamey, Texas.
Midland Iron Works—Billings, Montana.
Great Northern Tool & Supply Co—Kevin, Montana.
Great Northern Tool & Supply Co.—Kemmerer, Wyo.
Great Northern Tool & Supply Co.—Cody, Wyoming
Elms Brothers & Company—Waynesburg, Penna.
Lloyd, Smith Company—Bradford, Penna.
Acme Tool Co.—Pyote, Texas

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Leadership

The responsibilities of ruling one of the world's mightiest nations are exacting—but America has never failed in an emergency to produce a man particularly well fitted to pilot the ship past the danger zone.

Leadership in the field of oil industry pumps also has its responsibilities. Changing conditions are constantly bringing about the need for new pumping equipment. GASO owes much of its success to the promptness and efficiency with which these needs have been met.

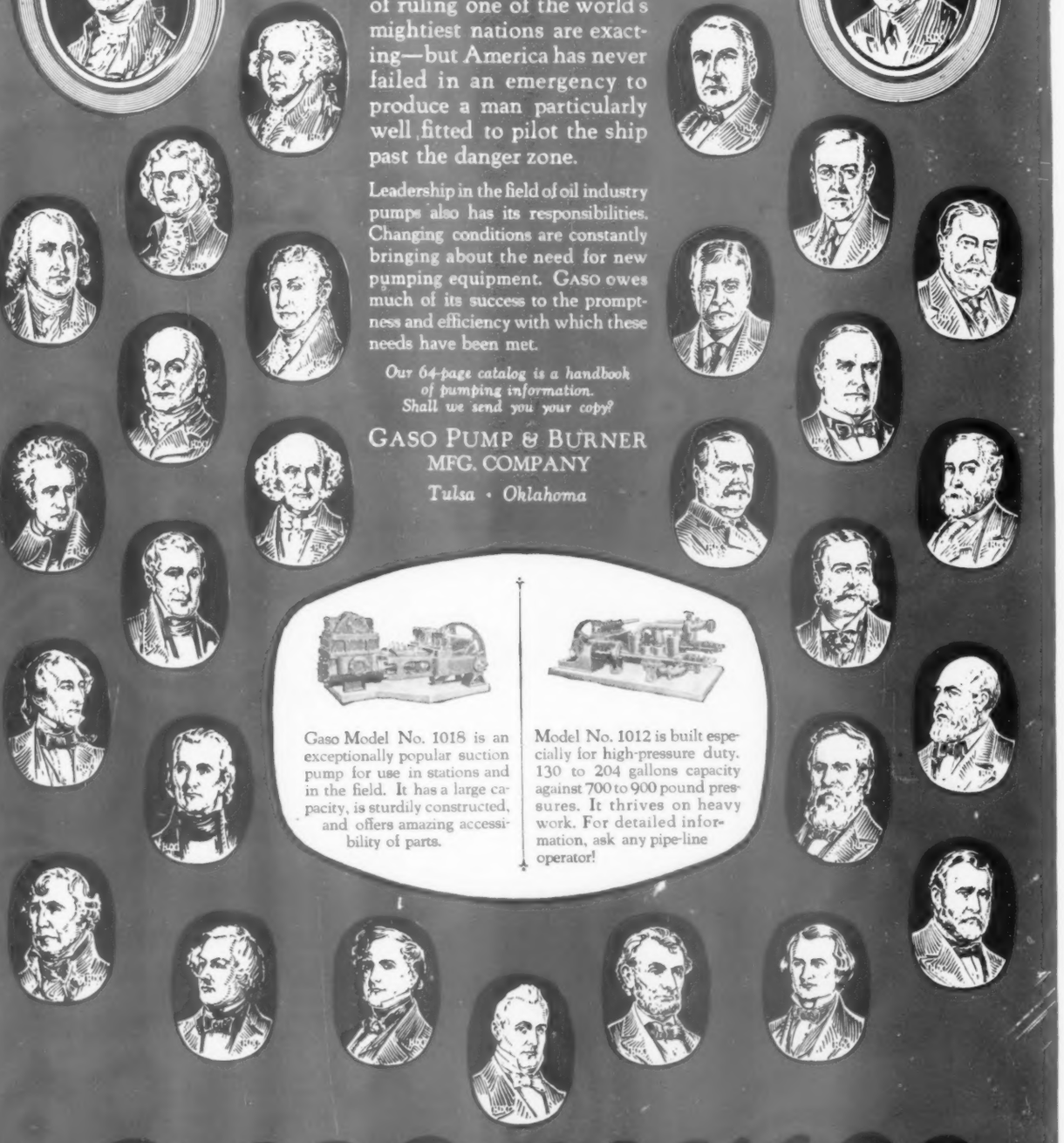
Our 64-page catalog is a handbook of pumping information. Shall we send you your copy?

GASO PUMP & BURNER MFG. COMPANY

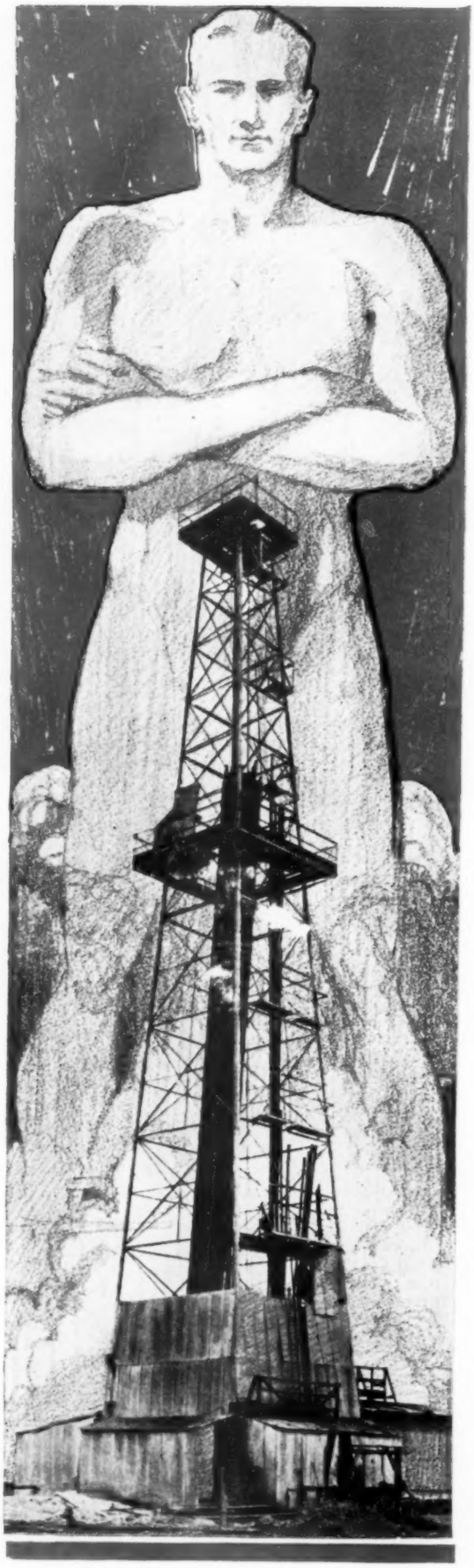
Tulsa · Oklahoma

Gaso Model No. 1018 is an exceptionally popular suction pump for use in stations and in the field. It has a large capacity, is sturdily constructed, and offers amazing accessibility of parts.

Model No. 1012 is built especially for high-pressure duty. 130 to 204 gallons capacity against 700 to 900 pound pressures. It thrives on heavy work. For detailed information, ask any pipe-line operator!



GASO PUMPS
for every oil industry need



There's a GIANT'S strength in every IDECO STEEL DERRICK

IDECO

STRENGTH is a known factor in IDECO Steel Derricks and strength combined with correct design means satisfactory performance.

An examination of the steel derrick standards established by the A. P. I. standardization committee reveals that long ago practically all of these standards had entered into the design of IDECO derricks. Only a few minor changes in certain dimensions were necessary to make the regular IDECO derrick conform to the sizes and dimensions established by this committee. What an endorsement this is of IDECO design and engineering.

IDECO derricks are built exclusively of American made structural steel conforming to the specifications of The American Society for Testing Materials.

The material and workmanship entering into their manufacture is of the highest quality. Every brace, every girt, every bolt and rivet is conceived to perform a duty, yet at no place is the shearing value of a bolt or rivet a determining factor in the structure. Every joint is a positive connecton. There are no friction joints, special bolts or complicated clamps or fasteners.

International has incorporated and produced in the IDECO steel derricks inherent values that make them unquestionably the strongest and most practical derricks on the market today.

THE INTERNATIONAL DERRICK & EQUIPMENT CO.

The largest company devoted exclusively to the manufacture of steel (galvanized) equipment for the oil, gas and artesian industries.

COLUMBUS, OHIO TORRANCE, CAL.

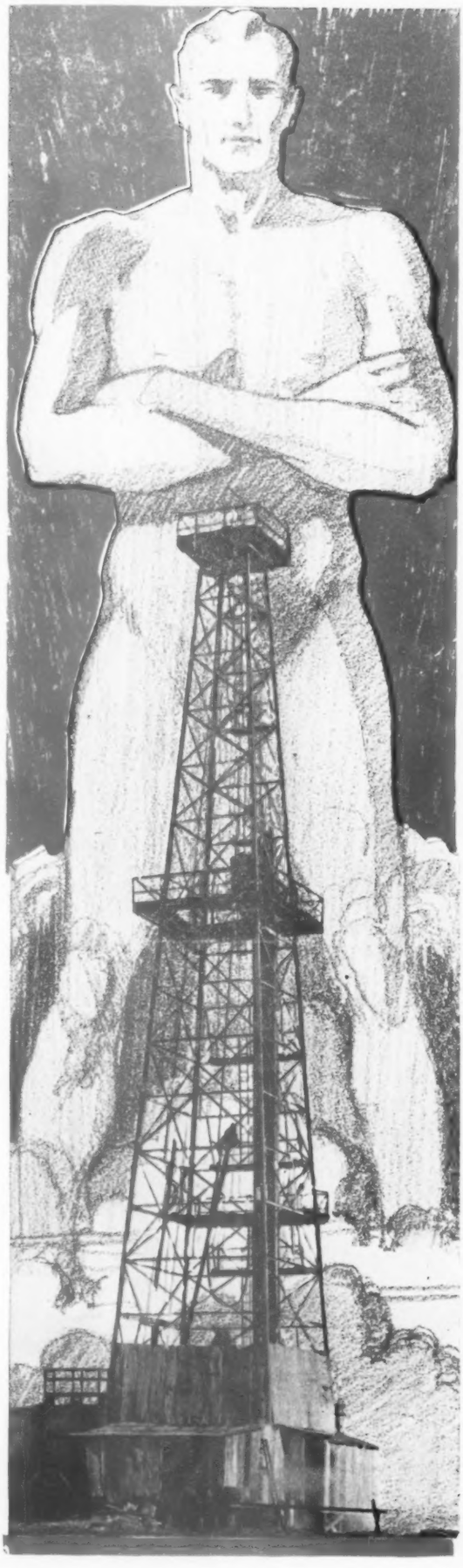
California Representative: National Supply Co. *of* California

Charleston	Amarillo	Allen	Wewoka
Detroit	Borger	Sasakwa	Denver
Dallas	Corsicana	Eldorado	
Houston	Pampa	Tulsa	Casper
Mexia	Panhandle	Tonkawa	Torrance
Wichita Falls	Shreveport	Drumright	Los Angeles
Odessa	Oil City	Okemah	
Pyote	Smackover	Seminole	Taft

Export Representation: 74 Trinity Place, New York City; Columbus, Ohio; Houston, Texas; Los Angeles, Cal.

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

502-M



DON'T RUN THIS BIT

unless you are equipped to remove the cuttings

Use large boilers—high pressure steam and the largest pumps obtainable—*then* put on a Guiberson Bit and you'll do some formation cutting the like of which you've never seen before.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

California Branch: 1506 Santa Fe Ave., Los Angeles

402 W. First St., Tulsa

321 S. Osage St., Ponca City

506 Trust Bldg., Newark, O.

Costs less per foot—Drills faster—Makes straighter hole

GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The OIL WEEKLY

A Letter from Harry G. Nye

Nye Drop Forged Pipe Cutter

No. 1-A ⅛ to 1¼" .....$2.25 net
No. 2-A ¼ to 2" ..... 3.00 net
No. 3-A 1 to 3" ..... 5.00 net

Nye Saunders Pipe Cutter

No. 1 .....$1.80 net
No. 2 ..... 2.70 net
No. 3 ..... 6.60 net
No. 4 ..... 10.80 net
No. 5 ..... 16.80 net

NYE (Toledo Type) Chasers Fit Nos. 1, 1A and 2 NYE (Toledo Type) Stocks

Each set is guaranteed in every particular. Will cut much easier than other similar dies.

No. 1, 1" to 1½" ..$ .75 per-set net
No. 1, 2" .....$1.25 per set net
No. 2, 2½" to 4" ..$3.60 per set net

NYE NO. 2
(Toledo Type)
Geared Threading Device Improved

Capacity 2½ in. to 4 in. inclusive. This tool has the same rugged construction as the No. 1 and No. 1A Nye Receding stocks. A ratchet handle and a spider hub threaded for 1-inch pipe is furnished as standard equipment.

Net price complete $50.00
West of Rocky Mountains .. 55.00

FREE TRIAL—ABSOLUTELY GUARANTEED

Nye Self-Locking Vise

No.	Pipe	Vise, Complete Net
00	⅛ to 2 "	.....$2.82
10	⅛ to 2½"	..... 3.34
20	¼ to 3½"	..... 5.00
30	½ to 4½"	..... 7.33

To the Oil Men of the U. S. A.—

Friends:

There is a good deal of loose talk now-a-days about the Scotch being tight, and I don't like it. I guess there must be a little Scotch in me, although some people say I act more as if it was rye. I have traced my ancestry back to the American Revolution, which is as far back as the police records go, but there may be some Scotch in me that dates back even farther than that; and pre-war Scotch, especially pre-Revolutionary War, ought to be pretty good.

One thing that makes me think that there may be some Scotch in me is something that happened at our house the other day. My wife laid out three old suits of mine and asked me if I didn't think it would be better to give these to some tramp than to go around looking like one. The fellow who sold them to me last fall said they would be very much worn last winter, and they were. He said they would be worn every place, and they were.

But I liked to go on wearing them because they were all broken in, where they were not broken out. Then, as soon as my wife found they were comfortable, she thought I ought to give them away. If a man is comfortable, that proves that he isn't dressed up. The regret of my wife's life is that men don't still wear armor. You can't make a woman understand these things, any more than you can make her understand a fishing hat or a pipe.

If there is anything a woman likes to do it is to give away a man's clothes. It is almost as hard for a man to keep himself in clothes as it is to keep her inside of hers. What we fellows ought to do when we need a suit is to go around to each others' back doors. Our wives would hand us out each others' clothes, and it would help quite a bit when the steamfitting business or the plumbing trade is none too good.

So I said all right, and saved myself a lot of time and argument. Next morning I put on the worst-looking suit, hoping to save at least that much, and when I got home that night I found that all the clothes I had was what I had on and a dress suit you would have to pour me into with a spoon. But luck was with me. The next day the tramp brought the clothes all back. He said they were all too tight. That's why I think I must be Scotch.

Maybe that's where Nye Tools get that bulldog grip. Maybe that's why they never give. Anyway they are the oil man's closest friends.

They, and yours truly,

HARRY G. NYE.

Otherwise Known As

THE NYE TOOL & MACHINE WORKS

4120-30 Fullerton Avenue

Chicago, Ill.

(Copyright, 1928, by Harry G. Nye. All rights reserved)

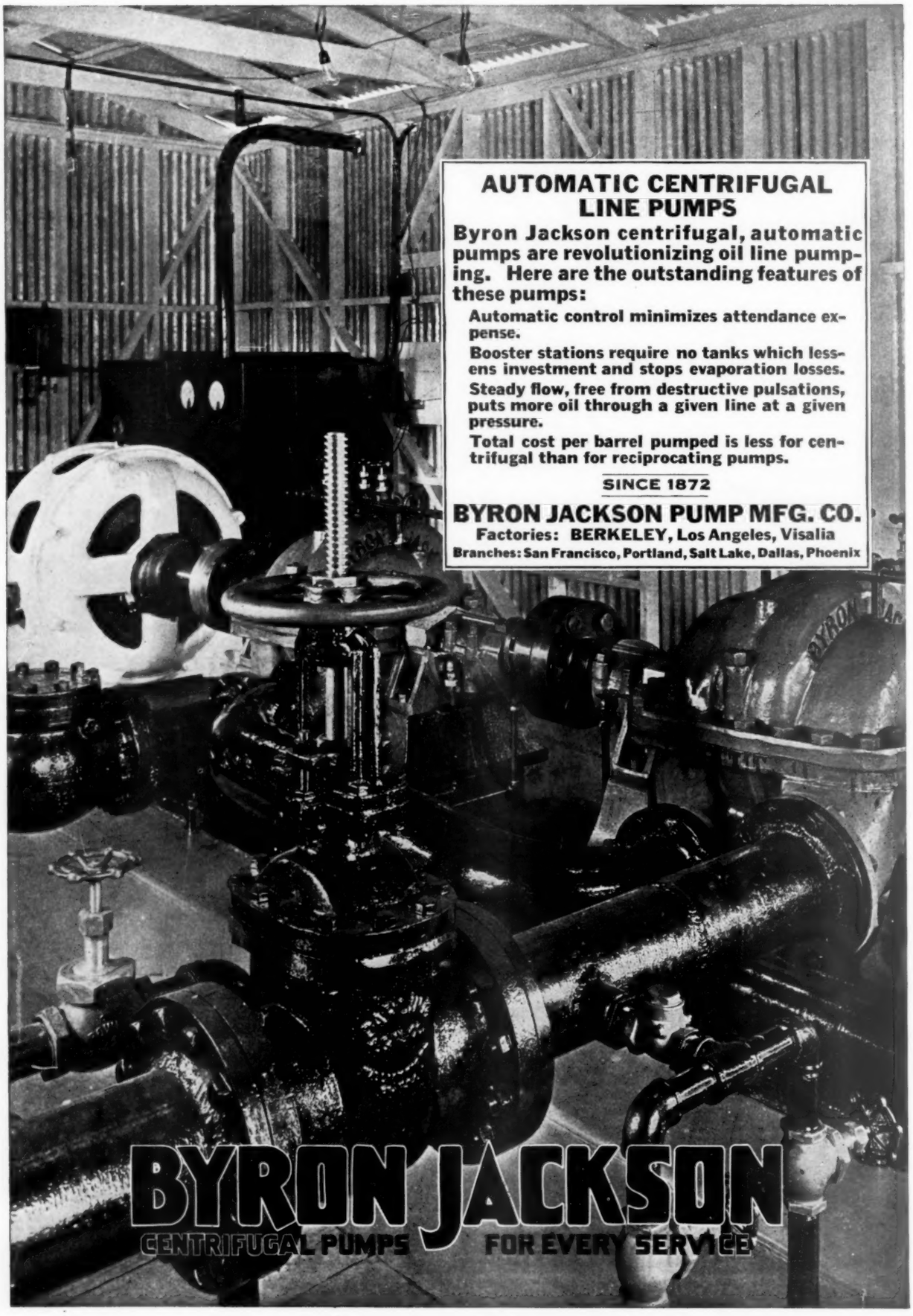
Nye thin blade cutter wheel, made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.

The No. 1A is the same as the No. 1, except that it is equipped with a ratchet for work where space is restricted.

No. 1A Nye Receding Pipe
Threader, complete ...$12.00 net
West of Rocky Mountains $13.50

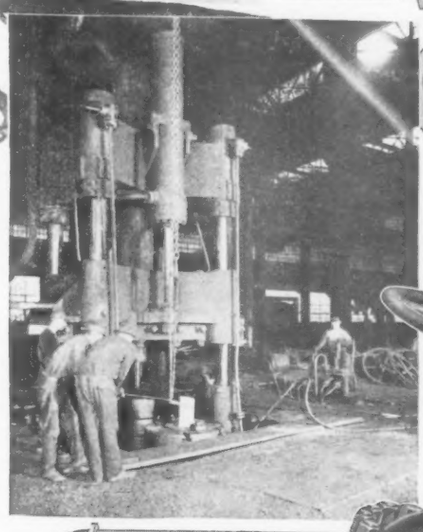
The rugged construction and few working parts account for the simplicity and durability of these Nye Receding models. They do the work easily and efficiently.

No. 1 Nye Receding Pipe
Threader, complete ....$9.60 net
West of Rocky Mountains $10.80

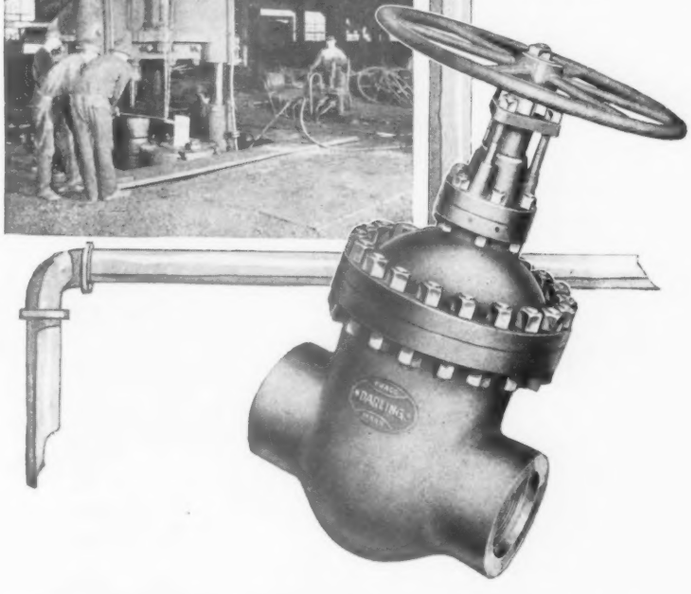

AUTOMATIC CENTRIFUGAL LINE PUMPS
Byron Jackson centrifugal, automatic pumps are revolutionizing oil line pumping. Here are the outstanding features of these pumps:
Automatic control minimizes attendance expense.
Booster stations require no tanks which lessens investment and stops evaporation losses.
Steady flow, free from destructive pulsations, puts more oil through a given line at a given pressure.
Total cost per barrel pumped is less for centrifugal than for reciprocating pumps.
SINCE 1872
BYRON JACKSON PUMP MFG. CO.
Factories: BERKELEY, Los Angeles, Visalia
Branches: San Francisco, Portland, Salt Lake, Dallas, Phoenix
BYRON JACKSON
CENTRIFUGAL PUMPS FOR EVERY SERVICE

FORGING *Unbreakable "Links" for Your*

Extreme High Pressure Hazards



Placing a 4" Darling Valve Casing Billet in the die of the 1000-Ton Press.



DARLING

FORGED STEEL GATE VALVES

A chain that's called upon to do double duty is always made of *forged* steel. So it stands to reason that a valve which is placed in position to receive the full brunt of a wildcat should also be of forged steel.

The little extra you spend for Darling Forged Steel Valves pays for a great deal of extra strength. The chances are it will save you considerable losses.

Detailed Information on Request

DARLING VALVE & MANUFACTURING COMPANY

Williamsport, Pa.

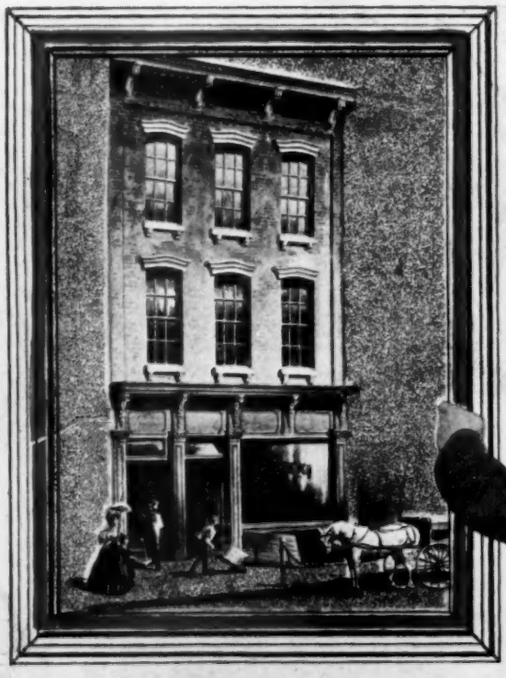
NEW YORK CHICAGO OKLAHOMA CITY HOUSTON

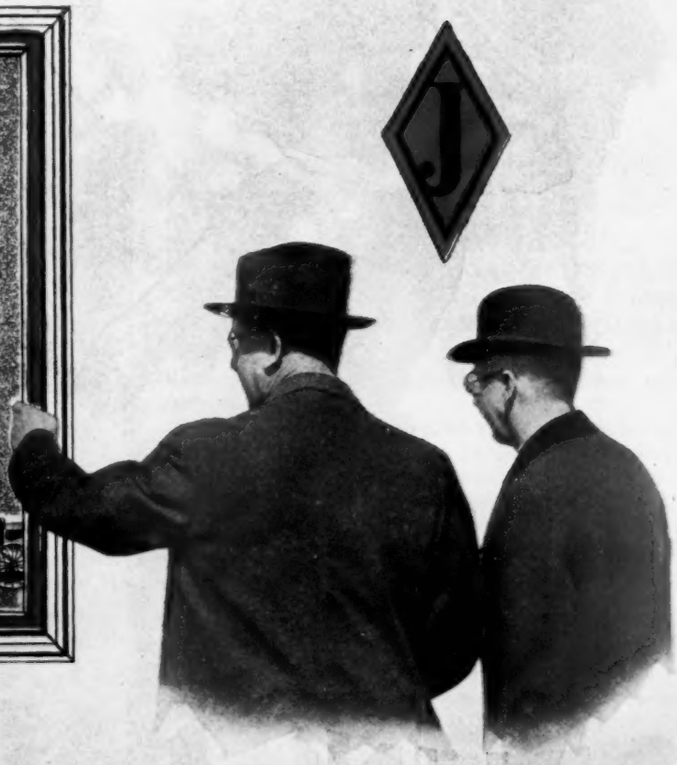
Mid-Continent Distributors:

Frick-Reid Supply Corp. Atlas Supply Co.
International Supply Co. Petroleum Supply Co.
Happy Belting Company

California Distributor:

Petroleum Equipment Company, Los Angeles

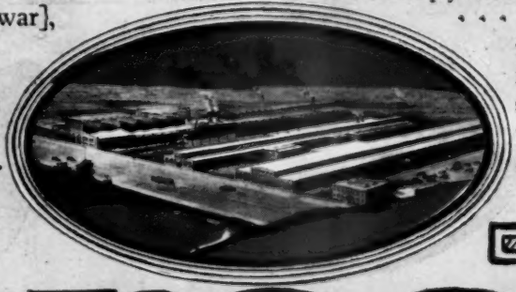




From 1800 to Half a Million Square Feet

. . . . There Must Be a Reason

Consider all that has happened since that morning in 1852 when Henry Jarecki opened his shop with its two hand lathes and crude melting furnace, and announced to the world that the JARECKI organization was established. . . . . Wars [including the Civil war], good times, hard times, panics—thru them all the business begun by Mr. Jarecki forged steadily ahead.



Dozens of stores, many with more floor space than the original plant, serve hundreds of miles of oil country. Contrasted with the 1800 square feet first occupied, the facilities acquired a few years ago alone occupy 420,000 square feet! . . . . *There must be a reason.* You will find it in the products and service you receive at your nearest JARECKI store.

Jarecki

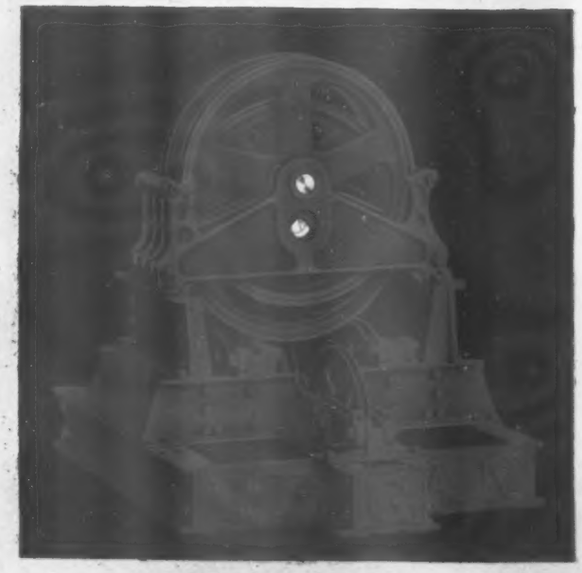
MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.

General Office, St. Louis, Mo.

Branch stores at all important places in the Oil Country.

District Offices { **Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.**



Type A

The Skyline at Long Beach is full of the Big red Regan Crown Blocks

Regan

Forge & Engineering Co.

Manufacturers of Oil Well Equipment

Quality

San Pedro, California U.S.A.

Dallas, Texas
1504 Magnolia Bldg.

Pecos, Texas
P. O. Box 444

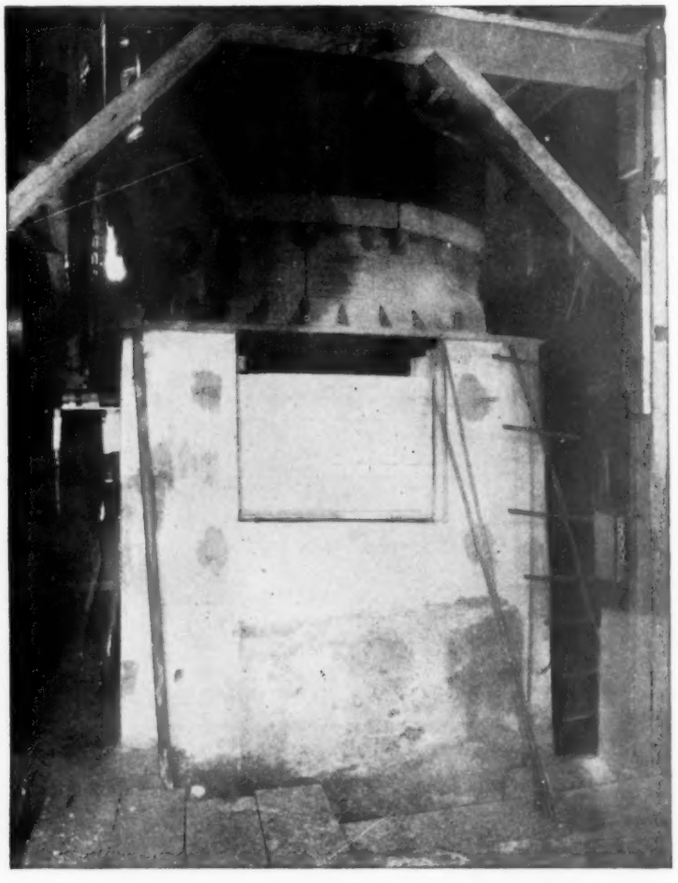
New York City
75 West St.
Wm. Braat, Manager

Maracaibo, Venezuela
Wm. Adams,
care Amer. Consul

Regan Crown Blocks are Fully Patented

Say you saw it in The OIL WEEKLY

40-Ton Crusher Placed in Service *on* 2-Day Old Concrete Base



- - made with Quikard Cement

HAVING the rock crusher out of service meant tieing up the entire mine and mill of the Interstate Zinc and Lead Company, Baxter Springs, Kansas. So Quikard Cement was used in constructing the new crusher base. The base was finished at 9 o'clock one night and the crusher placed in service the second morning later. Quikard saved time and money by delivering its tremendous early strength making possible speedy construction with safety.

Quikard concrete can be used with safety from 20 to 36 hours after placing—saving you from 3 to 4 weeks on all concrete work. It is a true Portland Cement and mixed in standard proportions it produces 28-day strength in 24 hours, and develops increased strength thereafter! It requires no admixtures or accelerators. It not only meets U. S. Govt. and A. S. T. M. standard specifications for Portland Cement, but exceeds all strength requirements.

Floors, bases for machinery, powers, pumping equipment, booster stations, derrick piers, etc., made with Quikard can be used within 48 hours at the most.

Quikard is *not* quick-setting. It takes its initial and final set normally, allowing plenty of time for proper mixing, placing and finishing. It is worked just like Portland Cement, is unusually plastic and finishes quickly and easily. It produces an exceptionally waterproof concrete and is constantly uniform at all times. It forms a perfect bond with old or new Portland Cement concrete.

Write for full details about how this proved quick-hardening cement saves time and money in construction work. Packed in 5-ply paper bags, Quikard may be shipped in mixed cars with Ash Grove Portland Cement or Oilmax Cement.

Produced Only by
ASH GROVE LIME & PORTLAND CEMENT CO.
Founded in 1882
General Offices: KANSAS CITY, MO.
District Sales Office: OKLAHOMA CITY, OKLA.
Petroleum Bldg., Phone Maple 0642.

QUIKARD CEMENT

17

Bettis *makes friends* with'em, *without exception*

For the Wildcatter

Use Bettis Casing Protectors, because
—they save hauling pipe to be threaded.
—they reduce transportation costs by saving pipe and casing.
—they save the time and cost of replacing tool joints and collars.
—your well will cost less when completed.
—your well will be straighter.
—your well will be finished sooner.
—there will be less liability of collapsed casing.
—casing is stronger, offering more protection against excessive gas pressure.
—there is better chance of good water shut-off.
—less fuel and water will be required.

For the Drilling Contractor

You will make more profit on your jobs by using Bettis Casing Protectors, because
—tool joint and collar cost is reduced, as well as cost of changing.
—hours of time are saved in breaking down joints when making change.
—fishing jobs are reduced as collars are protected against wear.
—pipe rotates easier and there is less danger of twist-offs.
—no extra metal in the hole to add to a fishing job. The rubber will yield to any fishing tool or over-shot.
—the casing is absolutely protected against cutting out by drill pipe collars and tool joints, preventing water breaks.

For the Purchasing Agent

Specify Bettis Casing Protectors for your operating fields, because
—they cost but a fraction of the price of other Protectors, yet show remarkable life in the field.
—the total cost of the completed well will be far less, due to the combined saving made in fuel, water, labor, collars, tool joints, casing, and trucking.
—production is not delayed on account of water shut-offs, lost fishing time and lost drilling time.
—less stock of collars, drill pipe and tool joints need be carried.
—higher salvage value for casing.

For the General Superintendent

Insist upon Bettis Casing Protectors, because
—more hole will be drilled, as pipe rotates freely.
—the hole will be straighter, as less friction allows better drilling.
—drilling will cost less due to saving in steam and fuel.
—the saving in cost of collars and tool joints that would otherwise have been worn out in service will repay cost of these protectors many times over.
—your wells will be finished sooner, meaning increased production and more flush production.
—better assurance is given of a good water shut-off and freedom from danger of twist-offs.

For the Drilling Crew

Insist upon the installation of the Bettis Casing Protectors, because
—you can make greater speed.
—you stand in line to win bigger income if you are on bonus arrangement.
—your record of fuel and steam consumption will show up better.
—these Protectors reduce to a minimum the dangers that cause twist-offs, water breaks and fishing jobs.
—straighter hole is drilled.

Fully Patented

For Overseas Drillers

Operators in remote fields find Bettis Casing Protectors especially necessary, because
—these Protectors give the only complete protection available for rotary drilling.
—weigh less; the freight is less; installation cost is less; their life is remarkable.
—your savings will be high due to elimination of many costly replacements of casing, tool joints and collars.
—your wells will be finished sooner and with minimum consumption of fuel and water.
—less money is invested in warehouse supplies, as the Bettis cost is but a fraction of that of other protectors and less equipment is required.

Patterson-Ballagh Corp.
3769 Moneta Ave., Los Angeles
Stocks also carried at Houston

Bettis *Texas and Louisiana Distributors:* Bettis Sales Co., 617 Public Nat Bank Building Houston **Protectors**

Say you saw it in The OIL WEEKLY

For Linde customers *only*

As a user of Linde Oxygen you get a product of uniform high quality and prompt delivery service. *But are you making full use of Linde Process Service?*

Linde Process Service is always ready to help you with any welding or cutting problem. It will show you how to get the best results in the most economical way.

As a Linde customer you are entitled to this Process Service. It isn't in the written contract but it is yours for the asking.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation

UCC

General Offices: Carbide and Carbon Building
30 East 42d Street, New York

49 PLANTS . . . . . 102 WAREHOUSES

LINDE OXYGEN

The pipe *dropped but* the Elevator *held!*

What happened at an Oklahoma Well ..... demonstrated strength of Wilson Elevator

During the drilling of a deep well in Oklahoma recently, the bolts sustaining the brake-lever broke. The pipe, at the time, was coming out of the hole and the traveling block was near the top of rig, carrying 32 fourbles of 6-inch drill pipe averaging 85 feet to the fourble, or approximately 2720 feet, suspended on a Wilson Center-Latch Elevator. When the bolt broke there was no way in which to retard the fall of pipe. But the dependable Wilson Elevator *held the entire load of drill pipe* when striking the master bushings in the rotary table, with the heavy traveling block falling on top. The four 10″ x 10″ uprights in the cellar to support the mud sills were broken. *Wilson Elevators are safe in every emergency.*

Wilson *double extra-heavy* center-latch Elevator

First in
Safety
Speed
Strength
Convenience

Wilson Oil Tools Corp.
DISTRIBUTORS FOR
Wilson & Willard Mfg. Co.
Factory and Distributor's Office — It's a Wilson — 2301 East Vernon Ave
Los Angeles, Calif.

Factory Representatives:
TULSA, OKLA.
409 Atlas Life Bldg.
FORT WORTH, TEXAS
814 Dan Waggoner Bldg.
HOUSTON, TEXAS
2201 Breckenridge St.
BIG SPRING, TEXAS
15 New Lester Fisher Bldg.

IT'S A WILSON

"No other pipe would stand the punishment"

Part of field superintendent's report in the Eagle Pass District

"The last time we run the reversing tool and got out any pipe, the 6⅝" casing was certainly not turning as Ross was four hours trying to back off running his engine wide open with two boilers popping off. He would only turn it so far the 3" would wind up until I could not see how the upper string could stand it, not alone the lower pipe, which was getting five times the amount of power we were giving the upper string.

"There is no other pipe made that would stand up to the punishment we are having to give this pipe."

This excellent report, concerning the use of Pittsburgh Seamless Drill Pipe 3½" 13.30 lbs. on the bottom of a string of 4½" drill in a tough fishing job, is only one of the many reports in our files that give overwhelming evidence of the extraordinary strength and performance of Pittsburgh Seamless Pipe and tubing in its service to the oil industry. We manufacture "Seamless" exclusively and maintain a uniformly high standard of quality and workmanship in our products.

Seamless Casing, Line Pipe, Drill Pipe, Oil Well Tubing

Pittsburgh Steel Products Co.
DIVISION OF
Pittsburgh Steel Co.

PITTSBURGH · NEW YORK · DETROIT · CHICAGO · HOUSTON · TULSA

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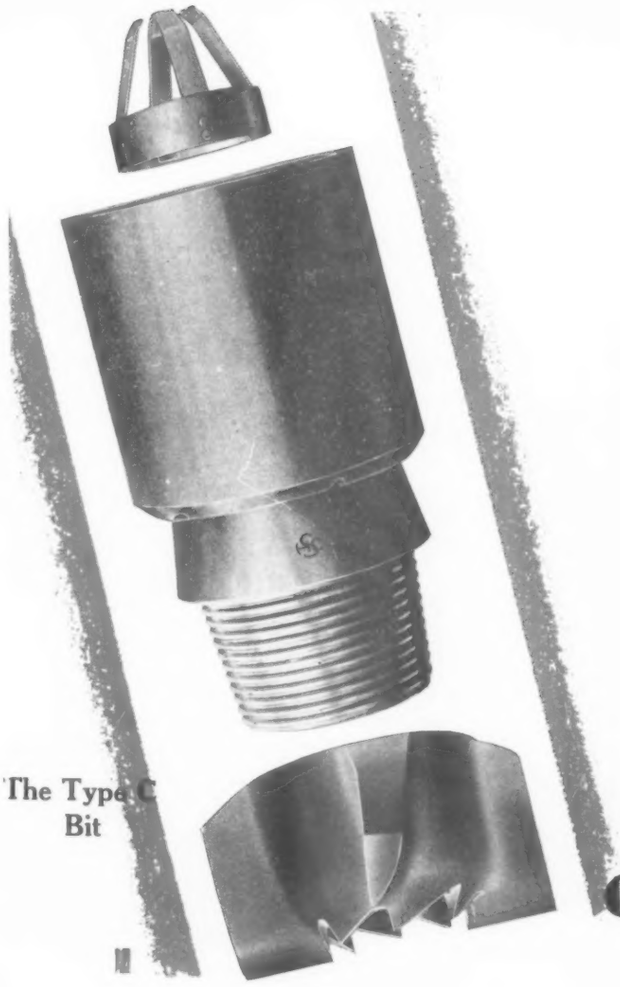

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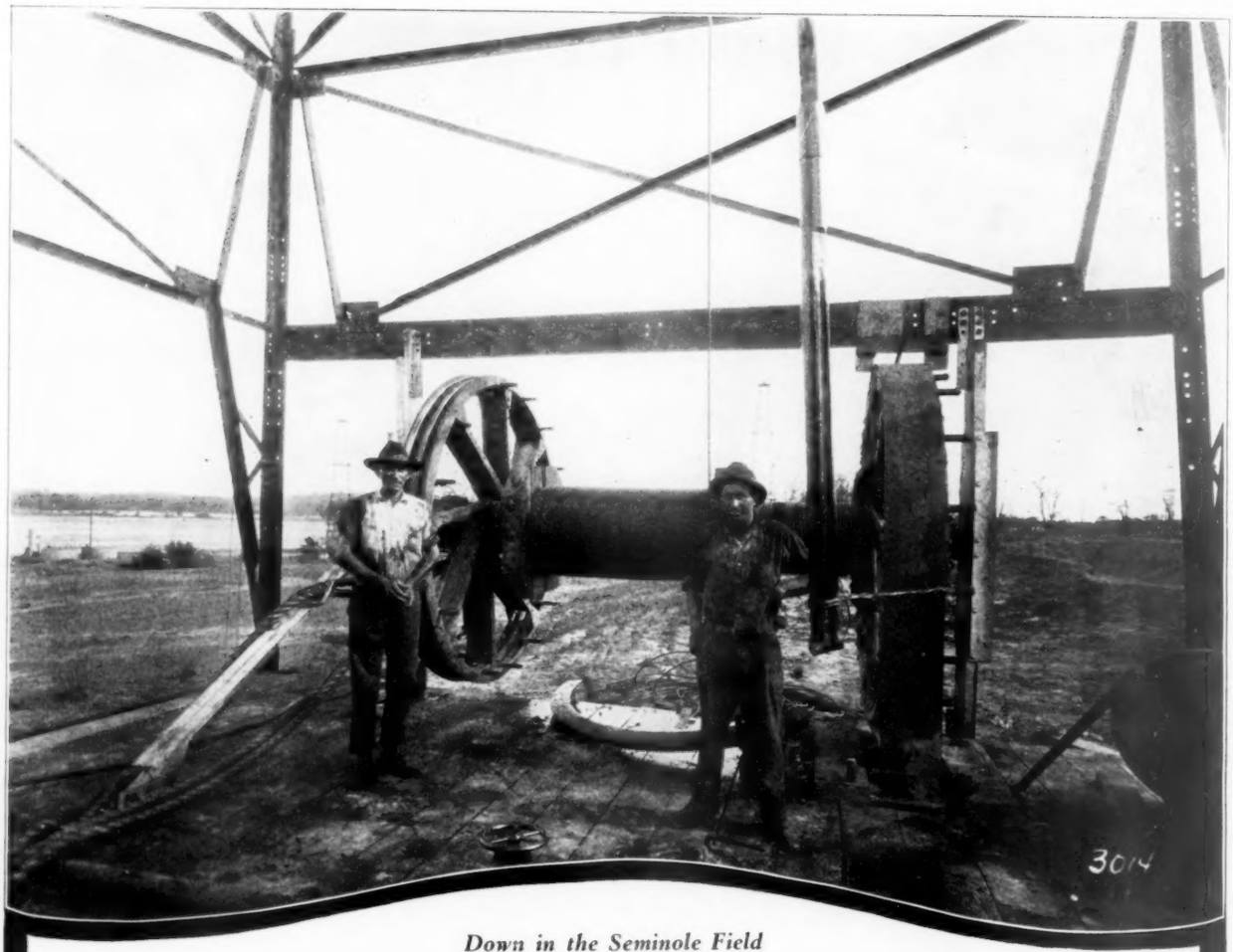

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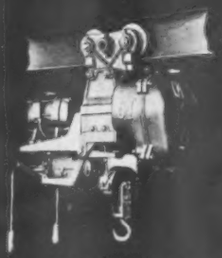

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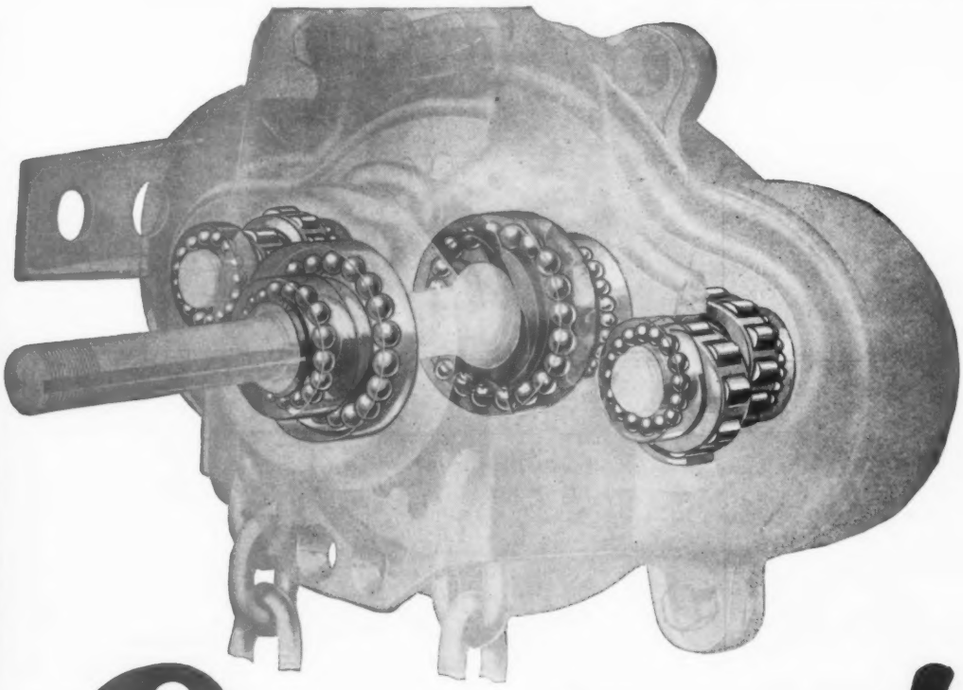

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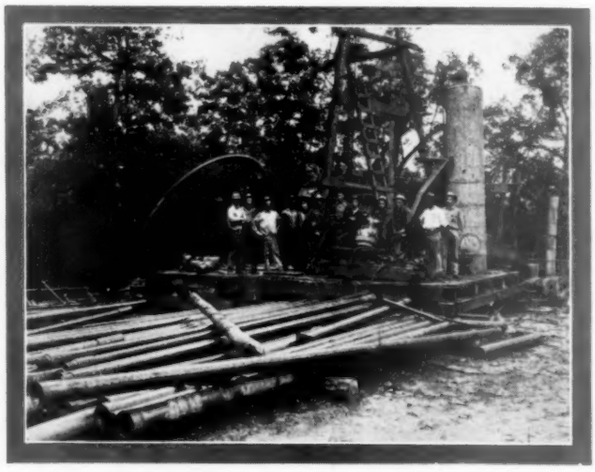

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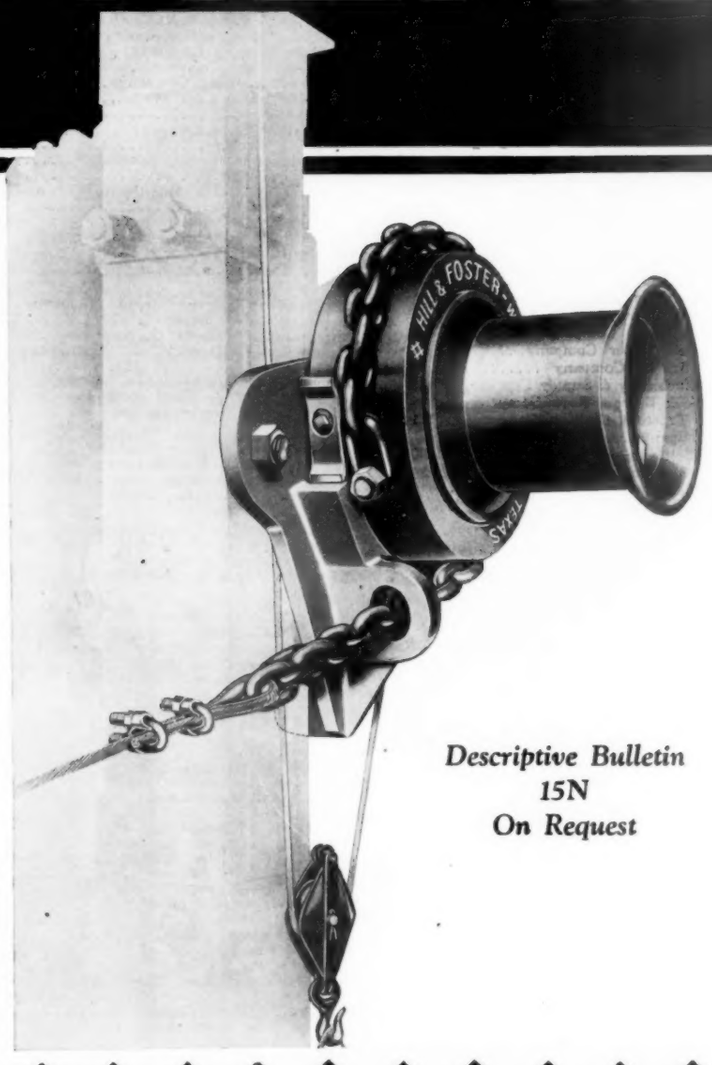

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REFINING PRODUCING MARKETING
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The OIL WEEKLY

Edited Weekly at Houston, Texas SPENCER W. ROBINSON, Editor

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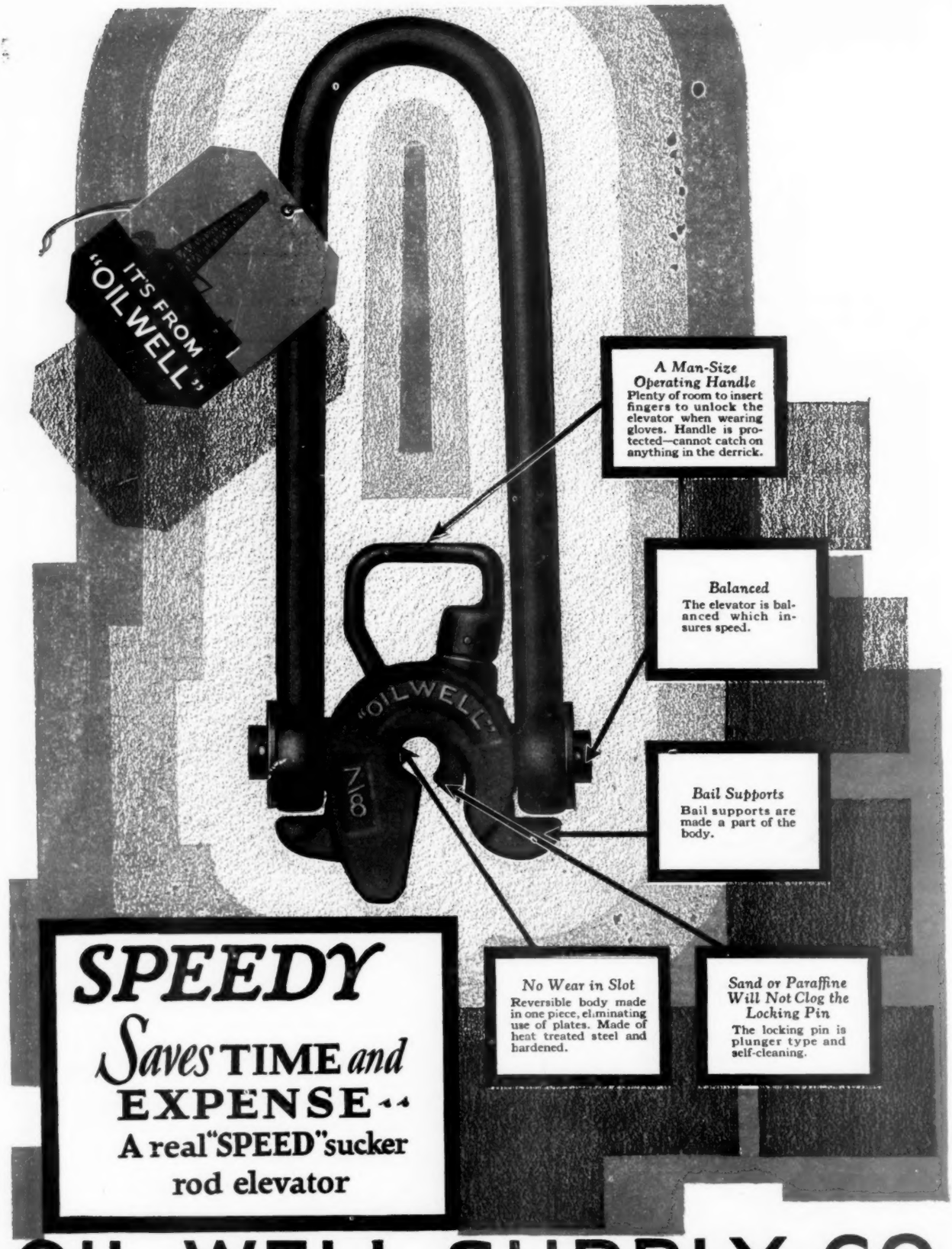
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Production Climb Has Weakening Effect on Market

Increase in posted price in California is lone note of encouragement during week; refiners are shading prices to encourage gasoline orders

By KENT RIDLEY

AN increase of 56,850 barrels in Oklahoma during last week sends the output for that state to the highest point since February of this year, and boosted the total for the United States about the same amount, bringing a total which has been exceeded only one week since the first of the year. Oklahoma operators, in connection with plans for controlling St. Louis, which is the present source of disturbance, have plans for limiting the output of all fields in that state by assigning quotas to all fields, based on a total for all of them.

Such action immediately no doubt would have a strengthening effect upon the situation generally, and it is needed now to offset a weakness which is coming as an aftermath of the stronger feeling engendered by the recent price advance.

California Up

Increase of the posted price in California gave the one note of strength for the week, and tends to balance the marked rise in production. Brisk business in kerosene and a stronger market for fuel, tends to offset a slackened demand for gasoline which has resulted in some refiners shading their prices to enable movement of stocks and make room for maintaining runs at high levels. Near approach of the double Labor Day holiday is giving some hope of the slow domestic demand for motor fuel being revived.

Refinery Runs

Continued increase in refinery runs in the Mid-Continent brought the daily runs for August 1, excepting West Texas, to 477,000 barrels of crude, against 408,000 barrels of August 1, 1927, or an increase in crude runs of 17 per cent. Including West Texas plants there was a daily run as of August 1 of 114,000 barrels over August 1 of last year.

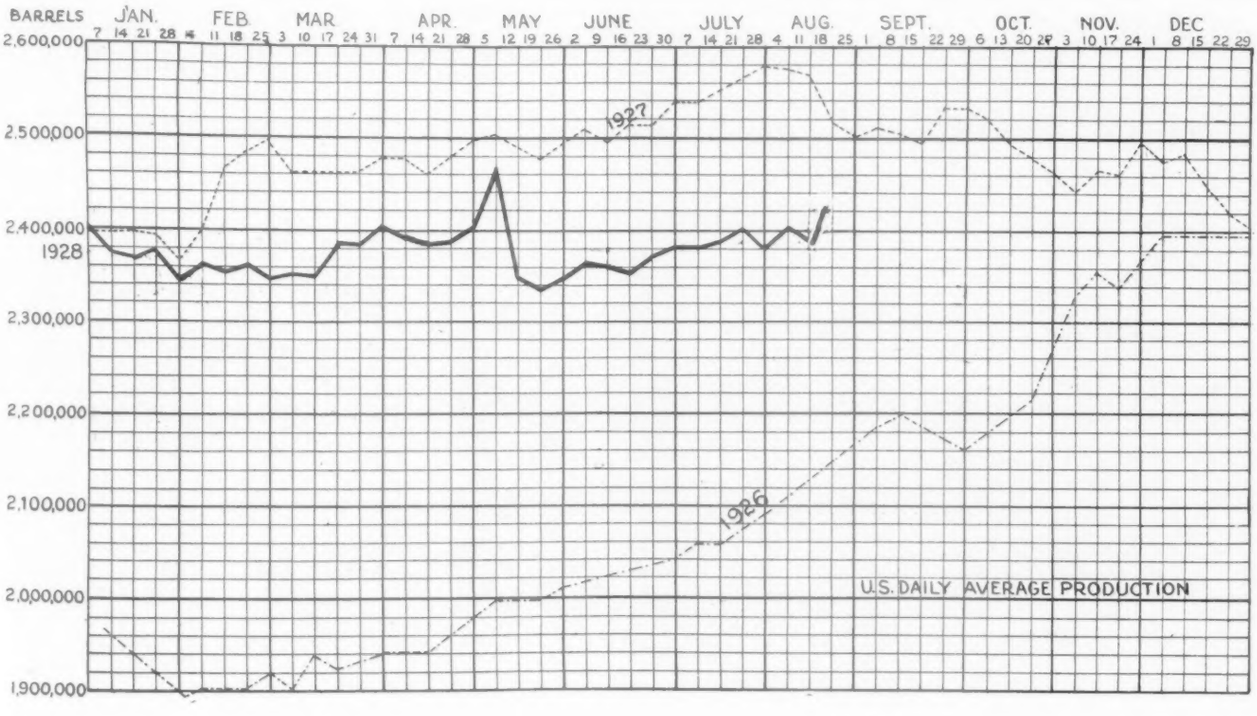
Until the present flood of oil at Little River and St. Louis fields, buyers were finding it hard to get Seminole oil without paying a premium, and indications are that a price raise, except for the coming increase in production, was not far off. Reports are that Burbank crude is bringing as high as 25 cents per barrel premium from one or more buyers. Champlin Refinnig Company, Bolene Refining Company and Garber Refining Company are now paying a 10-cent premium on Garber, Lovell and Roxana field crude. Tonkawa crude is also demanding good premiums.

Pipe Lines Increased

The addition of 25,000 barrels capacity to Sinclair's Drumright-East Chicago line, beginning immediately and completing this year, will increase this line system to 75,000 barrels daily, which will be divided between the Sinclair Refining Company and Standard Oil Company of Indiana. This increase of crude supply from Sinclair Pipe Line Company apparently will serve to cut off the bulk of deliveries, if not all, formerly taken by the Standard Oil Company of Indiana from Prairie Pipe Line Company.

Rapid construction of pipe line out-

UNITED STATES CRUDE PRODUCTION TREND



lets from St. Louis field is increasing the capacity from a present load of 88,000 barrels to around 125,000 barrels.

Plans now under way by Independent Oil & Gas Company to connect its Okmulgee-Seminole six-inch with its Eureka, Kansas-Kansas City six-inch is of considerable importance in that this will enable the company to move St. Louis field and Seminole fields oil directly into Kansas City, a refinery site of the company and the center of its distributing territory.

In Oklahoma and Kansas last week natural gasoline was selling strong at 10¾ cents, while U. S. Motor gasoline had climbed to and was firm at 9¾ cents. Kerosene showed the best increase by rising a half-cent during the week, getting a quarter-cent hike on Monday and another quarter-cent late last week.

Gasoline Breaking

Gasoline offers for prompt shipment were made in larger quantities during the past seven day period by refiners in the North Texas district as result of domestic jobbers lagging behind on their current purchases. Plant owners are making an effort to maintain sales at their previous high mark by shading prices a fraction of a cent, and some trading in U. S. Motor Gasoline was made early this week at 9½ cents per gallon, or one quarter cent under the recent high.

Crude charges to stills in the North Texas district are being maintained at a high mark in expectation of a revival of buying for the usual Labor Day holiday demand, which usually ranks as one of the largest gasoline consuming days of the summer. North Texas refiners report a brisk business on various grades of kerosenes and the popular grade is firm at six cents per gallon, while fuel oil has worked its way up to 52½ cents per barrel in the Wichita Falls section as result of fresh buying from railroads. Several of the larger railroads are using their fuel oil purchases as leverage for getting more oil freight tonnage, by favoring refining plants that will divert the bulk of their shipments over the purchaser's line.

An upward revision of allowable daily production in the Yates field, West Texas district, was made on the morning of the 20th by authority of the Texas Railroad Commission.

The field's output was increased to 72,500 barrels daily in order to permit Gulf Pipe Line Company to run 7500 barrels daily. Gulf discontinued running its own oil in this field about one month ago, and its quota was assigned to the Shell Pipe Line Company. Gulf has since found need for this oil, because of withdrawing from West Texas storage lately, and also found that signs of corrosion was in evidence on its idle line.

A slow start has been made in opening the deep pay in the Chalk-Roberts field, located on the Howard-Glasscock County line, to its allowable quota of 15,000 barrels daily, although proration was authorized by the commission to start August 15. Many of the completed wells have failed to flow when the umpire tried to make potential daily production gauges, while only a few of the leases have adequate tankage to permit a full 24 hour gauge. Shell Pipe Line Company will provide the field with its general market outlet late this week, and it is expected that Magnolia Pipe Line Company will take on some outside connections, while Humble Pipe Line Company is preparing to enter the field with an eight-inch line, which will be completed early in October.

California Increase

The recent increase in California crude prices has greatly strengthened all branches of the market. The boost has ironed out much of the friction and will do much to eliminate premiums paid in certain districts. The increase averages slightly above 15 cents for the most popular grades of oil and runs as high as 59 cents for the highest grade. Only the refinable grades were effected by the raise, leaving the heavy oil unchanged. No effort was made to reduce the heavy grades, as was done in other major districts. The increase was caused by several basic reasons, chief among them being the desire to bring about uniformity by eliminating premiums, the gradual withdrawal of light stocks and an effort to bring the price of crude in line with the present retail price of gasoline. The temporary effect has been rather pronounced and the increase is expected to be reflected in increased drilling in light oil fields. The new schedule was not expected at this time.

Long Beach seems definitely past the peak of production, although it is not safe to state that the decline in this area will be steady. Production has slumped for three weeks and there is the possibility that the yield will jump again when the wells now drilling below the final shutoff are completed. About 185 wells are still drilling and further upsets are possible. The increase in crude prices has somewhat dampened the premium-payer, the boost amounting to approximately the amount formerly paid above the posted prices.

Santa Fe Springs is not yet a market factor, except from a theoretical standpoint. If the new deep zone develops into what is expected of it, this field will cause the next market upset, however. More than 125 locations have been made and a large number of wells are already drilling for the new sand.

No increase has been made in the price of gasoline in the Pacific Coast territory, despite the higher crude prices. Since one of the reasons for the crude increase was to bring the price of gasoline in line with other products, no increase is expected at this time. Cut-price gasolines will be affected by the crude increase.

Refined products have been advanced.

Details on Critical Fields

	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	290	1,522,685	5,251	307	172,215	*561	12	131
Church & Fields	185	202,355	1,094	184	36,390	198	..	2
Gulf-McElroy	64	54,370	850	64	14,295	223	1	1
Yates	246	1,594,980	6,484	253	52,950	*209	7	21
Totals	785	3,374,390	4,299	808	275,850	341	20	155
TEXAS PANHANDLE—								
Hutchinson County	1,113	546,870	491	982	33,545	34	3	22
Gray County	250	107,500	430	239	20,475	86	7	55
Carson County	180	59,270	329	151	6,695	44	4	8
Wheeler County	42	14,230	339	33	740	22	2	8
Totals	1,585	727,870	459	1,405	61,455	44	16	93
OKLAHOMA—								
Greater Seminole	1,360	1,665,678	1,224	1,144	293,138	*256	29	184

*Partially pinched.

Repressuring Profitable on Old Oklahoma Lease

Broken Arrow property has marked increase in production following installation of repressure equipment; wells are pumped

By GEORGE REID
Staff Representative

A SMALL pool in the Broken Arrow district, Oklahoma, which produced 287,000 barrels of oil during the last 14 years, is now being profitably operated under repressuring methods by J. S. Terry & Company, Tulsa. The pool is characteristic of the Broken Arrow area in that a few wells which succeeded in penetrating the pay sand have been consistent producers and these wells are surrounded by dry holes. In this instance the few wells now producing are almost in the center of a circle of 11 failures. The area as a whole is spotted by a large number of such small productive areas with the intervening territory practically always dry. Such field conditions are easily adaptive to repressuring of the oil bearing sands by compressed natural gas or air.

Gas under 275 pounds pressure is injected directly into the 6⅝-inch casing at the key well. Depth is 1260 feet.

The pool now under development by J. S. Terry & Company lies in the northeast of Section 19-18-15, and repressuring practices have been under way since December 24, 1925. When the pool was taken over by its present operators there were but four wells operable, a fifth being in such bad condition as to render it unfit for pumping without extensive repairs. Prior to the time of insertion of compressed gas into the sand through the key well, the gas production from the small pool has been wasted. When the property was acquired by the present owners the production of oil was but nine barrels daily, coming from a sand varying in thickness from 9 to 27 feet, and lying at a depth of about 1260 feet.

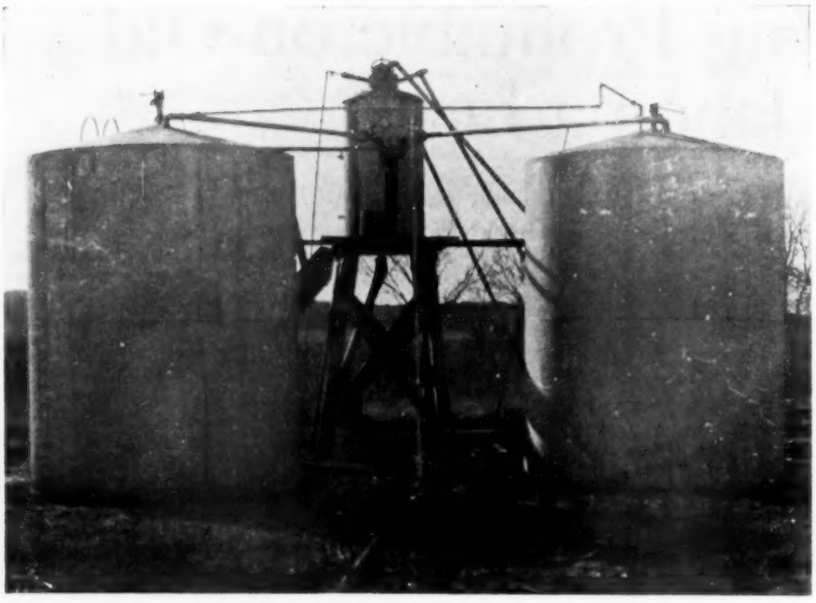
The old property required the usual amount of cleaning up and repairs, and some experimentation was required for the determination of the best possible hole to use as the point of insertion of compressed air. The first method used was the air drive, since it was not thought at the time that sufficient gas production existed for repressuring the lease. The key well selected is an edge well, located on the south side of the pool, with a "pay sand" nine feet in thickness. The lease was equipped with a centrally located power house and the same building was used when the compressor and gas engine were installed for repressuring work.

Compressor Equipment

A two-stage Ingersol-Rand compressor, size 8 by 4½ by 8 inches, supplies gas or air under pressure for injection into the key well. The compressor is belt driven by a 25 horsepower Franklin valveless engine equipped with Wico ignition. Belt connection from the same engine provides power to operate a small centrifugal pump which circulates water over the engine and compressor jackets. Each of the engines and compressor are surrounded by safety guards constructed of one-inch pipe and heavy wire screening.

Compressed air under a pressure of about 275 pounds per square inch was first injected into the key well on December 24, 1925. The lease was kept producing its nine barrels daily and for three months the injection of air failed to bring about any increase in production. At the end of this time, however, production began climbing at the rate of about one-quarter

Oil well and water well pumping with the same jack, at J. S. Terry Company's repressured lease at Broken Arrow.



Crude oil produced is handled through a closed system of tanks. Gas is separated from the oil in these tanks and conducted to the compressor for recycling.

barrel per day until the three wells were delivering 23 barrels daily into the lease tanks. As fresh oil was forced into the wells the gravity also showed a slight increase and the oil produced was cleaner than that yielded previously. This condition has been maintained. The wells are pumped with the familiar jack type pumping apparatus by means of pull rods and cables. Increase in production is slightly better than 150 per cent.

As pressure was built up and the air penetrated underlying oil sands in all directions from the key well, some difficulty was experienced due to pressure reduction brought about through faulty plugging of some of the surrounding dry holes. In all, four of these dry holes have had to be replugged. Local conditions were beneficial to the operators in this matter in that the surface dirt is underlaid by a stratum of lime-shale just a few feet deep. When the badly plugged wells began leaking air the surface dirt around the old casing was removed and the lime-shale stratum broken up and placed in the hole. An old piece of two-inch pipe was inserted so that the pressure could keep on relieving itself while the plugging work was going on. On top of the broken shale and around the rising two-inch pipe the operators pour quick setting cement. When this hardened and set the leaking well was then successfully plugged by placing a cap or plug in the top of the rising two-inch pipe. A shallow pit was left at each well plugged in this manner which is usually holding some water. So long as no bubbles of air or gas rise through this water, the well is known to be thoroughly plugged. Wells plugged in this manner also act in a measure as guides to the pressure built up in the sands, and as a check against the distribution of pressure, since it is only necessary to remove the plug from the two-inch riser to secure such information.

Change to Gas

In July, 1926, the company found that sufficient gas was being produced from the lease to convert the drive from air to gas. A check of the lease indicated a gas production of 92,000 cubic feet. At this time the production was 23 barrels daily from the three pumping wells. With a few changes, the compressor plant was started handling natural gas and recycling it through the sands. However, when the change was made, production of crude oil gradually dropped to 20 barrels daily. This experience points to the higher efficiency of the air drive as against gas so far as immediate results are concerned. Operators believe, however, that natural gas drive will prove more effective in the ultimate recovery of oil from the pool.

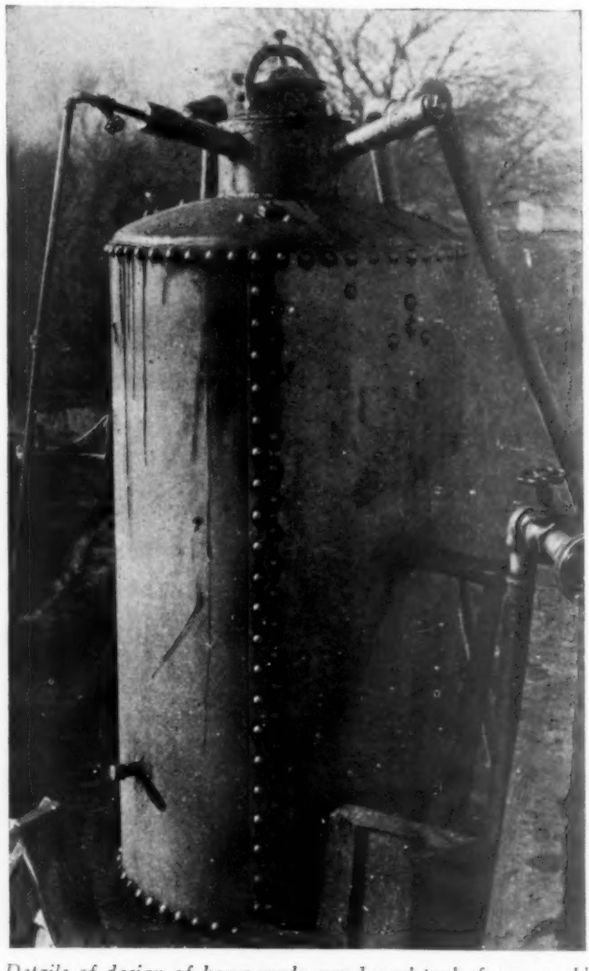
Natural gas returned from the sands is taken from the casinghead to the compressor. During winter months some vacuum is necessary in the collection of this gas for recompression, but during summer months there is more than ample gas for operating the system. Also during the cooler weather more gasoline is extracted from the recycled gas than in the summer.

Operating on gas the compressor is boosting it to 40 pounds on the low stage side. The gas is then cooled and passed back into the high stage side of the machine, where it is boosted to the operating pressure of 275 pounds. After cooling it is injected into the key well at this latter pressure. At present the plant is recycling about 70,000 cubic feet of gas daily.

As is customary with repressuring plants using natural gas, some gasoline is produced, which must necessarily be removed from the gas. It is estimated that this small installation condenses about 100 gallons daily during the cool weather. The low stage gasoline is used about the lease for operating cars and trucks. What remains is blended back into the crude produced.

Cooling System

The gas from both stages of the compressor is cooled in sterling condenser section mounted on two joints of three-inch pipe which rest on the top of the water tank. One of the interesting features in connection with the system is the method of cooling the mounted cast iron condensers with water. During cold weather no water is sprayed over the coils. In summer months the water is jetted over the coils or section instead of using a pump for this purpose. This is accom-



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While the oil sand in the key well is not as thick as the sand in the three producing wells, and is somewhat harder than the sand in the other wells, the travel of air and gas under pressure to the producers has been satisfactory. The company plans to clean out the fourth well which is in need of repair and to put it on production, and contemplates drilling a key well in the center of the rectangular productive district when price conditions justfy it. It is estimated that the normal rock pressure of the pool was 68 pounds, which in time will be restored. The production of the small pool fluctuates only with decrease or increase in the pressure at which gas is injected into the sand. In every instance where pressure has dropped the production has also dropped. The operators state that during the last year they have had steady production of 20 barrels daily using gas at 300 pounds, while operations at 275 pounds have resulted in a decrease of production to 17 barrels. Of course there is a reasonable limit in the fluctuations, and again, compressor capacity is limited. It is thought that with the boring of a central key well and repair of the present damaged hole, along with the conversion of the present key well into a pumper, that the production of the pool will be materially increased with operating pressures much lower than that prevailing.

Closed Flow Tanks

Two hundred barrel flow tanks are provided and one elevated gun barrel tank from which the incoming crude oil flows by gravity into the run tank storage. Both flow tanks and the gun barrel tank are in a closed system. Vacuum lines are provided leading from the two 100-barrel tanks to the compressor, and the vapors coming from the fresh crude are returned to the compressor, their gasoline content extracted, and the remainder recycled through the sands. The general scheme of economical installation and design is carried out with the tank system. The gun barrel tank, for example, was made from an old gas trap or separator. The trap was cut to size and top welded on. The gun barrel tank differs from those usually found in the field in that it is designed so that the operator can easily watch his wells pump and judge the flow from each as the oil enters this first tank.

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Proposed Texas Freight Changes Effect Oil Field Supplies

SHIPPERS and receivers of freight moving between points in Texas on notice of the Railroad Commission of Texas, met at Austin Monday, August 20, to take up and consider the matter of application filed under date of July 9 and supplemented under date of August 9, by and on behalf of all Texas railroads, for the adoption of rates, rules and regulations with respect to Texas intrastate traffic between points in Texas, that have been published to apply on interstate traffic between points in the southwest following the reports and orders of the Interstate Commerce Commission in Consolidated Southwestern Cases, I. C. C. Docket No. 13,535, et al and related cases, the latter rates having become effective on July 14, 1928.

The Commission is to hear all facts and arguments that may be presented by any interested party in support of or protest against the granting of the application of the railroads.

Embraced under the commodity scales being considered are the majority of the basic commodities, such as, agricultural implements, bagging and ties, barrels, beverages, butter and eggs, canned goods, green coffee, cotton fabrics, fertilizer, fruits and vegetables, furniture, iron and steel articles, poultry, syrup and molasses, oil well supplies, iron and steel tanks, iron and steel pipe, iron and steel oil well derricks and various other commodities. The rates on crude petroleum and the products thereof are not involved in this hearing and no change will be considered in the present rates. It is generally felt that the Commission will grant the application of the Texas railroads for the adoption of these new rates and this course will be practically necessary in order to prevent violation of the Interstate Commerce Act which declares unlawful any rates in intrastate traffic which are prejudicial to rates in interstate traffic, such as would be the result if the present rates were allowed to remain in effect. There are a great many advances in the proposed rates and likewise there are some reductions in rates. Heretofore the carriers have had two scales of rates generally for application between points in Texas, viz: one for application on shipments moving over a single line of road and another for shipments moving over two or more lines, known as single line and joint line rates respectively. If the Southwestern scale is adopted, there will only be one scale for application whether the traffic is shipped over a single line or two or more lines. This will have the effect in most instances of reducing the rates which have heretofore applied on shipments moving over two or more lines. However even with this admitted advantage there will be numerous advances in rates and it is thought that there will be many vigorous protests at the adoption of the scales as they now stand.

Rates on oil well supplies will be reductions in practically all instances. The present scale reaches 67 cents at 231 miles and applies for all distances greater than 231 miles, while under the present scale the rate for 231 miles is only 54 cents and does not reach 67 cents until a distance of 326 miles is reached, thereafter progressing according to the distance handled. The proposed rates on iron and steel tanks are both advances and reductions, with advances predominating. The present rate of 48½ cents is reached at 476 miles and applies for all distances greater, while under the proposed scale the rate for 476 miles is 57 cents and thereafter progresses according to the distance. The proposed rates on iron and steel oil well derricks are advances in all instances which comes about as a result of derricks being placed in the Interstate Commerce Commission under the same scale as oil well supplies in the order in the Southwestern cases.

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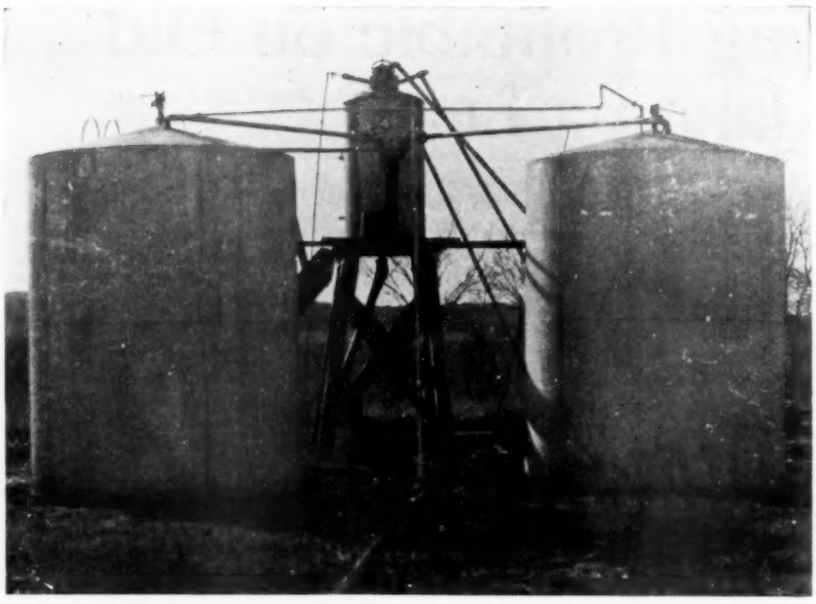

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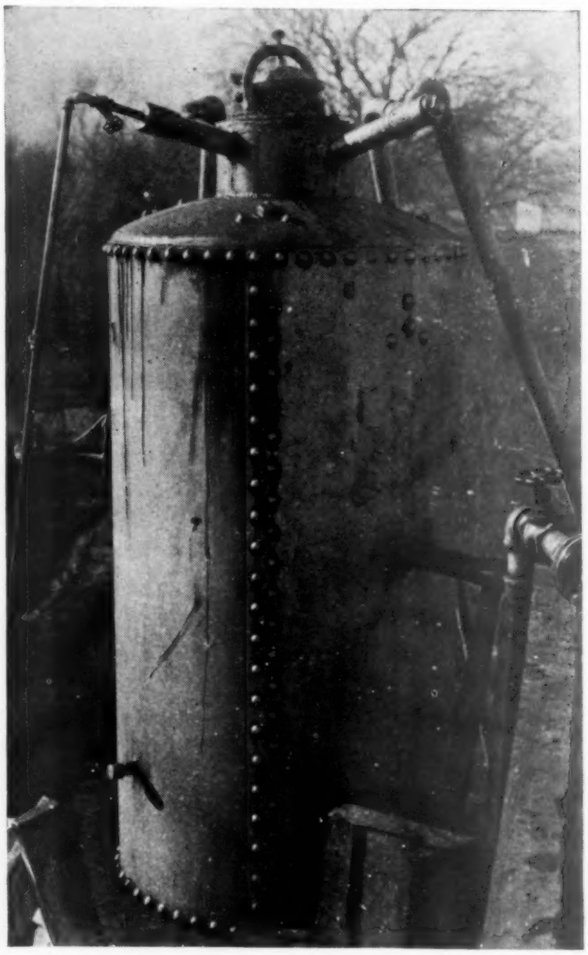

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PERSONAL MENTION-MEN YOU KNOW

Dr. F. H. Lahee, chief geologist for the Sun Oil Company with headquarters at Dallas, departed late last week for a vacation trip to Green Mountain Falls, Colorado, accompanied by his family.

Frederick G. Clapp has completed his engagement as Petroleum Engineer to the Imperial Government of Persia. He will continue his consulting practice and can be addressed as usual at 50 Church Street, New York City.

George A. Forrester, consulting geologist of Wichita, Kansas, returned to his home last week from Presidio County, Southwest Texas.

W. P. Sutton, production superintendent of the Indian Territory Illuminating Oil Company, Seminole, Oklahoma, has just returned from a three-weeks motor trip to California with his family. He visited the oil fields around Los Angeles, and reports good roads and a pleasant trip.

W. H. Haight, geologist of the Transcontinental Petroleum Company, with headquarters in Tampico, Mexico, has been in Houston for about two weeks on business.

E. P. Ross, auditor of the Calcasieu Oil Company, has returned to Houston after spending a vacation in North Texas. He was accompanied by his wife and young son and daughter.

Wesley G. Gish, who has been chief geologist of the Sinclair Oil and Gas Company since 1924, in charge of activities in Kansas, Oklahoma and Texas, will be transferred on September 15 from Tulsa to Fort Worth, where he will direct the land and geological organization in Texas. C. U. Daniels recently resigned this position to become an independent operator in Texas, where he has been located for several years. When Mr. Gish goes to Fort Worth, C. A. Yoakam, Seminole district geologist for Sinclair Oil and Gas Company, will have charge of the geological work in Kansas and Oklahoma, with headquarters in Tulsa; and John F. Kinkel, of the Wichita, Kansas, district office, will be transferred to Tulsa as Mr. Yoakam's assistant.

Bernard Franklin, secretary to Paul S. Ache, president of Reiter-Foster Oil Corporation, Tulsa, returned early last week from a two weeks' vacation in Colorado. Franklin leaves late in August for New York, where he will become secretary to T. M. Pettigrew of Pettigrew & Meyer, owners of Reiter-Foster Oil Corporation.

CLYDE M. BENNETT

Clyde M. Bennett, of Shreveport, is resigning as president of the Trinidad Oilfields, Inc., and as managing director of the Trimidad Oilfields Operating Company, Ltd., to join the forces of the Vacuum Oil Company as executive head of the crude oil department. Mr. Bennett will fill the vacancy caused by the retirement, some few months ago, of W. C. Brower, who had over 40 years' service in the oil business.

At an early date Mr. Bennett will make a tour of inspection of all of the Vacuum Oil Company's leases and field operations in the Southwest, and will then make his headquarters at Houston for an indefinite period. There are no changes contemplated in the Vacuum Oil Comapny's organization at Houston.

Ed Ross, salesman for D. & B. Pump Company, El Dorado, Kansas, is spending two weeks vacationing in Eureka Springs and Siloam Springs, Arkansas, accompanied by his family.

C. D. Carney, district gauger No. 29 for Prairie Oil & Gas Company, has been made chief gauger for the Seminole Conservation Committee, and will work under Umpire Ray M. Collins, having assistants contributed by the various other operating companies in Greater Seminole.

Carl Russ, chief clerk of the Gulf Production Company at Houston, is on his vacation, part of which he is spending at Orange, Texas, with relatives, being accompanied by his wife and their two children.

L. E. Barrows, production manager in the Central West Texas division for The Texas Company, returned to headquarters at Fort Worth Sunday after spending several months in California in connection with the purchase of the properties of the California Petroleum Corporation early this year by The Texas Oil Corporation.

W. A. Moncrief, chairman of the Yates field proration advisory committee with headquarters at Fort Worth, departed late last week for a vacation trip to Colorado.

Joe R. Simmons, sales representative for J. H. McEvoy and Company, died here Tuesday, August 21, following an automobile accident on the night of August 16, having had both his legs broken and one ankle badly crushed. Shortly after being taken to the infirmary he contracted pneumonia which added to the complications of the injuries received in the accident. Mr. Simmons was well known among coastal operators. He had served as representative for J. H. McEvoy and Company for five years. He attended the University of Texas and later worked for an Austin concern. He was 35 years old and unmarried. His body was sent to Brenham, Texas, his old home, for burial.

Charles H. Lane, in charge of operations for the E. F. Simms Interests on the recently opened flank development of the old Jennings Dome, was back at his office in Houston this week after some time spent working on the second deep well which has sanded up and is now being cleaned.

Joe E. Simmons, sales representative for J. H. McEvoy and Company is in a Houston hospital recuperating from an automobile accident in which he received serious injuries. Both Mr. Simmon's legs were broken and one ankle was badly fractured.

Seismograph Showing Gets Drilling Test in Harris County

Humble Oil & Refining Company starts test well southeast of Pierce Junction; other large operators also have acreage in vicinity

By JACK LOGAN
Staff Representative

HOUSTON.—Humble Oil & Refining Company is rigging up on its Minnetex 1, a deep test on a supposed salt dome near the town of Mykawa in Harris County, at a point about 10 miles south of the court house in Houston, and five and one-half miles from the city limits of Houston.

Indications of the dome were found recently by the North American Exploration Company through torsion balance work for H. C. Cockburn of Houston. Mr. Cockburn had blocked up large acreage, most of it being owned by the Minnetex Company, a local realty concern. Under the ownership of the Minnetex Company, a large part of the land over-lying the supposed dome had been subdivided into numerous five and 10-acre tracts and 57 acres had been set aside and subdivided as a townsite.

Mr. Cockburn in turn made a deal with the Humble Oil & Refining Company, according to which that company paid him his costs in making the torsion balance survey and blocking the leases, and agreed to test out the area by drilling, with the provision that in the event of the development of oil or gas production, Mr. Cockburn will receive an interest in that production.

To Go 4000 Feet

The test which has been started will drill as much as 4000 feet. As it has been pictured through the torsion balance survey, the dome is deep seated, and similar in size and depth to the Sugarland dome, Fort Bend County.

The analogy between the Sugarland dome and this new supposed dome extends further, for in both cases the torsion balance was used and the work was done by the North American Exploration Company for H. C. Cockburn; and in both cases Mr. Cockburn turned the acreage to the Humble Oil & Refining Company. On the Sugarland dome, the Humble company made an oil well of the first test that it drilled.

In accordance with its deal with Mr. Cockburn, the Humble company has a large part of the supposed dome under lease, the total holdings which it obtained from him aggregating around 1500 acres, including the 57 acres in the townsite of Mykawa, which is on the northern edge of the dome as it has been pictured through the torsion balance work.

That survey shows the top of the dome to be about one and one-half miles in diameter, extending from the north side of Mykawa southward to Clear Creek, the boundary line between Harris and Brazoria Counties. It is said that the dip of the dome is sharp on the north side and gradual on the south.

The test is near the apex of the supposed dome, being slightly south and east of it. Its location is 50 feet from the north line and 150 feet from the east line of Tract 291 of the Minnetex lands in the William Lovett survey. It is a little over one-half mile south of the town of Mykawa, and 200 feet west of the Santa Fe railroad. "Mykawa" is a Japanese word meaning "by the side of the river," and the town was so named because of its proximity to Clear Creek.

Besides that of the Humble Oil & Refining Company, some close-in acreage has been obtained by The Texas Company, Gulf Production Company, Vacuum Oil Company and D. J. Harrison.

The top price that was paid for acreage on the supposed dome was on a five-acre tract reported to have been obtained by D. J. Harrison for $500 per acre, plus an equal amount to be paid from oil if any is found, plus a two-per cent over-riding royalty. That particular strip is about one-quarter mile northwest of the Humble Oil & Refining Company's test.

Acreage Prices

Vacuum Oil Company paid $500 cash per acre for 10 acres about one-half mile west and a little north of the present Humble test; and $200 per acre for two other small tracts. Gulf Production Company paid $150 per acre, plus a 1/48 over-riding royalty for 30 acres south of the Humble Oil & Refining Company's test and across Clear Creek. In addition, the Gulf Production Company has two close-in tracts, one consisting of 15 acres and one of 10 acres; and holds considerable acreage north and northwest of the townsite of Mykawa. The Humble Oil & Refining Company's lease of the townsite is surrounded by acreage held by others. The Texas Company has 50 acres on the top of the dome, a little west and south of the townsite; and some acreage north and northwest of Mykawa.

The combined holdings of The Texas Company, Gulf Production Company, Vacuum Oil Company and D. J. Harrison amount to about 1500 acres, which, added to the 1500 acres of Humble Oil & Refining Company leases, make around 3000 acres on and around the dome under lease.

The area is about six and one-half miles southeast of the Pierce Junction field, one of the largest of the Gulf Coast fields at present.

It is accessible from Houston by three roads, a dirt road and two shell roads. The dirt road leads out of the Griggs road at the junction of the Southern Pacific and Santa Fe railroads, and runs south along the Santa Fe to Mykawa. The shell routes are followed by going out the Chocolate road, or down the Telephone road 10 miles and turning west to Mykawa.

Garden Villas, a suburb of Houston, is just north of Mykawa.

Houston.—Humble Oil & Refining Company's Gotosky 2, discovery deep well at Raccoon Bend, Austin County, suddenly increased its production last week, and flowed for a half day at the rate of 1800 barrels, 50 per cent oil and 50 per cent water, at the end of which time it was pinched in to a flow of 100 barrels of fluid, including 50 barrels of oil. Prior to the increase of the flow, the well was averaging about 35 barrels of oil a day, flowing. This well was completed late in January this year for an initial flow of 500 barrels, and has been producing since then. It is 3279 feet deep.

Humble Oil & Refining Company controls the district, and is now running three rigs there. Gotosky 3 is down to 2900 feet in sand and shale; Bracey 1 has set 6⅝-inch casing at 3330 feet; and Sanders 1 is drilling at 925 feet. Gotosky 3 and the Bracey 1 are in the immediate vicinity of the Gotosky 2, but Sanders 1 is one mile northeast.

Houston.—Gulf Production Company several days ago completed Moore 16 at Moore's Field, near Orchard, Fort Bend County, for an initial flow of 700 barrels, partially pinched, the bottom of the well being at 2825 feet. This company has completed several producers on this dome, which was outlined through geophysical work; but the new well is the only one in the field producing.

Yount-Lee Buys Fee 7,000 Acres Including Sweet Lake Field

LAKE CHARLES, La.—Retaining all water rights for navigation and irrigation, the Sweet Lake Land & Oil Company several days ago sold 7000 acres, including the body of water known as Sweet Lake, to the Yount-Lee Oil Company for $1,750,000 cash, the sale being subject to the lease which the Pure Oil Company holds on the entire tract.

Thus the Pure Oil Company will continue to operate the property for oil production, paying royalty to the Yount-Lee Oil Company instead of the former owners; and henceforth it will designate the wells in the Sweet Lake field as the Yount-Lee No. 4 instead of Sweet Lake No. 4, and so on.

The Yount-Lee Oil Company has its headquarters in Beaumont, Texas, and is one of the principal producing companies in the Gulf Coast, having about 80 per cent of the production in the Spindle Top field, and considerable production in various other Coastal fields.

The Sweet Lake Land & Oil Company is owned by local capital, with H. G. Chalkley of Lake Charles as the principal owner and the head of the organization. Under Mr. Chalkley's leadership the property involved in the recent deal was converted into a rice plantation, and an extensive system of irrigation canals was worked out, providing for use of water from Sweet Lake.

In the course of the dredging work, gas bubbles were found in Sweet Lake, and subsequently two unsuccessful tests were drilled, one by the Gulf Refining Company and one by Noble & Emerson. Pure Oil Company took over the proposition in 1925, obtaining leases on 9000 acres in a single block, including property of the Miami Corporation and of the Sweet Lake Land & Oil Company.

Producing Wells

Pure Oil Company's first test resulted in a gas blowout and the formation of a huge crater. Four more tests were drilled, and all have been producers; the various wells have shown the presence of three sands, at 5200, 5600 and 5900 feet, approximately. Sweet Lake No. 4 is 5924 feet deep—the deepest producer in the Gulf Coast.

The field's daily production is close to 4000 barrels. Sweet Lake 4 (now Yount-Lee 4) is flowing around 285 barrels of oil, and the No. 5 about 3650 barrels. Last Sunday the No. 5 passed the 300,000-barrel mark in total production. It produced 15,000 barrels from the 5660-foot level, and after deepening to 5718 feet, has been averaging over 3700 barrels for about 80 days.

The Pure Oil Company recently began drilling No. 6, which according to a report of a few days ago was in gumbo at 1540 feet.

Third Producer at Boggy Creek, 4600 Barrels

Houston.—Humble Oil & Refining Company, sole operator in the Boggy Creek district, Anderson - Cherokee Counties, last last week completed what is probably the best well of the field, its T. H. Jones 2.

The production is from 13 feet of sand at a total depth of 3728 feet, and tests 38.6 degrees gravity, with a temperature of 90 degrees.

The potential daily production of the well has been variously estimated, as it has been choked down with chokes of different sizes.

The highest yield was made in a test of about one-hour last Thursday through a large opening, when the flow was at the rate of 215 barrels per hour, or approximately 5200 barrels a day. On Friday a six-hour test showed 194 barrels per hour, or 4656 barrels per day. On Sunday the well produced pipe line oil at the rate of 74 barrels per hour, flowing through a five-eighths inch choke, together with 5,000,000 feet of gas. The well registered 1000 pounds pressure.

The new well is in Anderson County, being on the west side of the Neches River, boundary line between Anderson and Cherokee Counties. There are two other producers in the field, both Humble Oil & Refining Company wells, Lizzie Smith 1 and Madelstam 2. Lizzie Smith 1 is 600 feet south and 700 feet west of the new well; and Madelstam 2 is 650 feet north and 700 feet east of it. Elliott-Clark 1, discovery well of the district, is northeast of the new producer a considerable distance in Cherokee County.

Another Humble test in the Boggy Creek district is now nearing an interesting level, Peter Holloway 1. It is 3200 feet southwest of T. H. Jones 2. A late report showed it drilling at 3574 feet.

Roxana Gets Third Well At Allen Dome

Houston.—Roxana Petroleum Corporation now has three producing wells at Allen dome, Brazoria County, following completion of the Randon 1 for 60 barrels of oil daily at 5584 feet. The well is now flowing 60 barrels oil and 30 per cent b. s. and water. The company's Allen Bernard is pumping around 12 barrels a day, and Allen 4 is flowing 15 barrels daily, making a total of about 85 barrels from the three wells.

Roxana is drilling one other test on the dome, Poole A-2, which is down to 4460 feet in shale and lime.

Sand at Greater Depth Extends Production at Markham

HOUSTON.—Rycade Oil Corporation last Friday opened what appears to be an important producing area in the Markham field, Matagorda County, completing Hudson-Humble 2 in a new sand in a new part of the field, for an initial flow of 35 barrels pipe line oil per hour, or at the rate of 840 barrels per day. Total depth of the well is 3621 feet. Early this week it was flowing around 350 barrels per day, still making pipe line oil.

The new producer is on the southeast side of the field, in a large block of land which the Rycade Oil Corporation holds jointly with the Humble Oil & Refining Company, the latter having a one-half working interest. On this basis, the Rycade Oil Corporation and the Humble Oil & Refining Company control practically all acreage between the new well and the nearest producers, one exception being a small lease of The Texas Company 600 feet from the new well.

Deepest in Field

This producer is the deepest in the field. It is about three-quarters of a mile outside the former limits of production, being about that distance south and a little east of one group of old wells, and about 3900 feet east and south of a group of Rycade Oil Corporation wells that are now producing.

The Markham field had only about 400 barrels daily production before completion of the new well. Of that amount, around 300 barrels was from six pumpers of the Rycade Oil Corporation, the remaining 100 barrels being from wells of several other companies. The older wells are around 3200 feet deep.

In past years deep tests in the field have been chiefly on the west side. The area is one of the oldest among the fields of the Gulf Coast, and having produced considerable oil from shallow depths. Its history dates back to 1904, and the peak year was 1911 when 562,000 barrels were produced. The total recovery there has been around 3,000,000 barrels.

Rycade Oil Corporation is now building derrick for Hudson-Humble No. 3, near No. 2.

South Little River and St. Louis Increase Rapidly

More than dozen new wells added in two areas during week, with average initial above 3000 barrels; St. Louis showing strongest Wilcox pool

By WALLACE DAVIS
Staff Representative

TULSA. — A rapid increase in flush production at St. Louis and South Little River fields is placing the high gravity pools of Seminole and Pottawatomie Counties again into the disturbing class. More than a dozen new wells were added during the past week in the two fields with an average initial production above 3000 barrels. A new 5000 barrel well in the northeast extension of Earlsboro over the past week-end again checks this field's decline, adding another prospective hazardous spot to Greater Seminole territory.

T. B. Slick completed Hembree 4, in the southeast of the southwest of the southeast of Section 19-7-5, St. Louis, for 9980 barrels from 13 feet of Wilcox sand topped at 4158 feet Saturday, bringing the St. Louis total output at Monday's gauge to 75,744 barrels from 95 wells as compared with less than 64,000 barrels a week before. Of this total there are seven Wilcox wells making 51,705 barrels, or a well average of above 7300 barrels. Of the remaining total there are 30 Simpson wells making 20,394 barrels. Fifty-eight old Hunton and Viola lime producers were making approximately 4300 barrels.

Early last week Independent Oil & Gas Company added its second and third Wilcox wells to St. Louis field and became the leading producer of the area. Youts 2, in the southwest of the northeast of the southeast of Section 19-7-5, flowed 3990 barrels from Wilcox sand at 4158-91 feet and No. 3, a south offset, flowed 4345 barrels from Wilcox at 4242-58 feet. No. 2 is an east offset to Youts 1, which is in the northwest of the northeast of the northeast of Section 19-7-5, and which flowed 16,615 barrels Sunday pinched in with a slight back pressure after completing more than a week ago for 21,000 barrels initial. Youts 5 on this prolific 80-acre lease was drilling in Simpson sand August 20 at 4240 feet and flowed 660 barrels in 20 hours. At that time it was being deepened gradually to the Wilcox pay.

Apparently this Wilcox pool is developing into the strongest producing area, per acre, of any of the Greater Seminole territory. Operators are rushing wells to completion without restrictions on drilling at present. The scramble for production results chiefly because of the nature of the sand, which is very porous and loose and which is easily drained. An example of the mad rush now on at St. Louis field is the installation last week by T. B. Slick of an air compressor on

> Tulsa, Aug. 21.—Little River decreased Tuesday to 114,303 barrels from 191 wells, but Greater Seminole production was practically equalized with an increase of St. Louis to 78,785 barrels from 96 wells, a new peak.

Hembree 2, in the southeast of the northeast of the northeast of Section 19, when the well was flowing 6600 barrels naturally. Due to completion of the Independent's offsets on the east Hembree 2 has continued its decline, regardless of artificial pressure.

Following is the production by wells of Wilcox producers at St. Louis with the status of other formation production:

	Aug. 19	Aug. 20
Magnolia Petroleum Company—		
Hembree 1	4559	4462
T. B. Slick—		
Hembree 1	7150	6913
Hembree 2	5500	5485
Hembree 4	1865	9980
Independent Oil & Gas Company—		
Youts 1	16,989	16,615
Youts 2	3990	3145
Youts 3	4345	5105
Total Wilcox (7)	44,398	51,705
Simpson producers—		
30 wells	19,710	20,394
Lime producers—		
58 wells	4055	3645
Grand Total 95	68,163	75,744

The enormous increase in Little River and St. Louis production can be seen in the following comparison by fields in Greater Seminole territory for gauges of August 19 and 20, with the number of wells:

	August 19		August 20	
Field—	Wells	Prod.	Wells	Prod.
Little River	183	110,272	188	119,057
Bowlegs	318	52,154	318	52,154
Mission-Maud	12	353	12	347
Earlsboro	279	81,365	279	85,085
Seminole City	295	48,291	295	47,697
Searight	69	13,073	69	12,564
Total	1156	305,508	1161	316,904
St. Louis	94	68,163	95	75,744
Grand Total	1250	373,671	1256	392,648

The comeback at Earlsboro resulted from completion by Carter Oil Company's James 4, in the northeast of the southwest of Section 6-9-6, a southwest offset to Burke-Greis et al's Wisner 1, which six days before flowed 145 barrels an hour from Wilcox sand at 4353-67 feet. James 4, which produced following a 20-quart shot from Wilcox sand at 4317-32 feet, made 5045 barrels Sunday after completion Saturday of last week. It is located approximately a half mile east of Skelly Oil Company and Atlantic Oil Producing Company's Cherry 1, the discovery well in the extension about four months ago. More than a dozen wells are now drilling in the extension, and while few have showed up as well as the original producer there, indications are that considerable flush oil is to come from this area between the Earlsboro and Searight pools. Every worthwhile producer in the extension territory has required a shot in the Wilcox before making its best pay.

Prairie Oil & Gas Company and Amerada Petroleum Corporation completed the star producer of the week in South Little River field in Sonny 1, in the southeast of the northeast of the northwest of Section 14-7-6, with an initial yield of 5745 barrels from Wilcox sand at 4148-67 feet. Sonny 3, in the northeast of the northwest of Section 14, flowed 3450 barrels from Wilcox at 4412-20 feet. Pure Oil Company's Cotcha 3, in the northeast corner of Section 23, flowed 4140 barrels from 4367-80 feet. Cotcha 4 of this company was making 95 per cent salt water and flowing 26 barrels on air August 18 after plugging back five feet in Wilcox sand from 4566 feet with sand topped at 4560 feet following finding of salt water at six feet in. Pure's Cotcha 1 on the same lease made 3679 barrels initial when the first drilling into Wilcox was allowed August 12.

Continental Oil Company's Milsey 2, in the southeast of the southwest of the southwest of Section 11-7-6, flowed 4125 barrels from 4213-21 feet. Independent Oil & Gas Company's Tewee 1, in the northwest of the northeast of the southeast of Section 14, late last week swabbed 1300 barrels from Wilcox sand at 4345 feet. Independent's Davis 1, in the southwest corner of Section 13, flowed 2170 barrels from 4285-4300 feet, and Davis 2, a north offset, swabbed 810 barrels from 4352-64 feet. Carter Oil Company's Lena 1, the most northwestern of the new locations in the south area of the field, in the southeast corner of Section 10, flowed 4205 barrels from 4167-76 feet. Prairie Oil & Gas Company's Harris 1, in the

southwest of the northeast of the southwest of Section 14, flowed 3825 barrels from 4183-98 feet, and Roxana's Johnson 1, in the northwest of the southwest of the northwest of Section 13, early last week flowed 2040 barrels from 4260-65 feet. Magnolia Petroleum Company's Dindy 1, in the northeast of the southeast of the northwest of Section 11, swabbed 335 barrels from 4110-36 feet in Wilcox sand.

Failure of South Little River field to increase to even a higher level following completion of this list of good producers comes through the reducing of production three days following completion to conform to the ruling of 1600 barrels to 40 acres. All new wells, however, are allowed to take the 72-hour flow test when Wilcox pay is encountered.

Failure of a number of wells to flow after Wilcox sand is drilled to the pay was becoming common late in the past week, and approximately 10 locations stood with oil showing or rising in the hole, but failing to flow naturally. This status of many of the wells is attributed to the rush development of drilling a large number of wells into the pay simultaneously. Some of them are offsets to wells good for 4000 to 5000 barrels natural yield. It is for this reason that large numbers of air compressors are being rushed into the field to get quick production at the time when engineers have concluded is the proper time to use the lift for the maximum ultimate yield.

Little River's prolific area has been fairly well defined on the west side, with two water wells being completed last week and three other operations shut down due to finding structures running hopelessly low. A second well showing water in the south end of the proven area further contributes to the probability that at this point the field also peters out. The first water well on the east, aside from the Prairie Oil & Gas Company's test well near the east edge of the township some months ago, came Monday morning when Independent Oil & Gas Company's Wood 1, in the southwest of the northeast of the northwest of Section 13, got water at five feet in Wilcox sand topped at 4400 feet. On the south Carter Oil Company's Cotcha 2, in the northeast of the southwest of the northeast of Section 23 and a west offset to Pure's Cotcha 4, also making water, swabbed 210 barrels of oil and then had 600 feet of water in the hole August 18. On the west extremities of South Little River Sinclair Oil & Gas Company's L. Williams 1, in the southeast corner of Section 15, topped Wilcox sand at 4346 feet and at two feet it filled with water, and will be plugged. T. B. Slick's Williams 2, a half mile north, in the southeast of the northeast of Section 15, is a water well in Wilcox sand, and also will be abandoned. Barnsdall Oil Corporation is expected to abandon three locations in the northeast quarter of Section 15 after drilling far below Wilcox depth before topping the upper formations. Mayes lime, ordinarily found around 3800 feet was topped at one of the locations below 4500 feet. The locations are Williams 1, 2 and 3 along the east line of the center of the quarter. Apparently three locations of T. B. Slick to the west will be failures as well as a location of Sinclair and New England Oil Refining Company in the northeast of the southwest of the southeast of Section 15.

Little River Proration Left to Commission and Committee

TULSA.—Greater Seminole operators Tuesday afternoon voted to turn the matter of determining the method of prorating Little River production over to the Umpire, Committee and Corporation Commission. The extent which acreage will play as compared with that of potential yield is to be decided before September 10 when the present order allowing 1600 barrels to 40 acres expires, but the figure has been set at 125,000 barrels maximum.

The primary purpose of the meeting, that of putting the state rather than any particular field, on a general proration basis gained no conclusion and stands for later decision on details, because unanimous decision could not be reached on the committee's suggested plans. T. B. Slick, one of the three leading producers in St. Louis field, declared the nature of producing formations there made it impossible to pinch wells without materially damaging them and explained that back pressure applied on the Wilcox sand forced the oil back into the Simpson horizon above because of lack of pressure in the latter formation. He refused to restrict production at St. Louis but agreed to prorate in other flush fields provided an equitable scheme was adopted.

Magnolia Petroleum Company and Independent Oil & Gas Company, other big St. Louis producers, are willing to prorate there if other Oklahoma flush fields are included in the program, thus not throwing the entire burden of curtailment on St. Louis.

Of the 35 operators in and around St. Louis 20 were present, 11 voted yes, seven passed the vote and two voted no to the following plan of prorating the state production: "Flush fields of Oklahoma shall be divided into units, the limits of each field to be defined and extended from time to time by the committee. The daily amount of oil to be produced from each field or unit shall be determined as follows:

"The total outlet through pipe line companies and purchasing companies for the State of Oklahoma shall be determined for each month and this amount allocated as follows:

"All pools or areas having an average of less than 100 barrels daily per well shall be permitted to produce to full capacity and the total sum of all such areas shall be subtracted from the total allowed production for the State, the remainder shall then be allocated to the flush fields. Each flush field, designated as a unit, shall receive its allotted amount in proportion to its potential production.

"A new potential for each field shall be determined on during the last five days in each 30 day period.

"The figures shall be arrived at by permitting an open flow of 24 hours from each unit.

"The open flow will establish the new potential for each unit for the next 30 days. The production allocated to each lease in a unit to be determined as follows: The potential of each lease to be determined by an open flow on the first and fifteenth of each month, and the potential arrived at shall receive its prorata of the total amount allocated to the unit in proportion to the relation it bears to the total potential production of the unit.

"Wildcat wells shall be permitted to produce a daily average of 100 barrels for the first 10 days after bringing in of well, and during this period no other wells shall start without first obtaining a permit to drill from the committee controlling this area. A meeting of the producers owning acreage in this area shall be called for the purpose of deciding upon a policy for the development of the field."

Shell to Complete Trunk Line Extension

Big Spring, Texas.—The Shell Pipe Line Company will complete construction work late this week on an extension of its trunk line system from the McCamey-Healdton line to the deep oil area in the Roberts-Chalk field, located on the Howard-Glasscock County line. Roxana Petroleum Corporation has requested about 8000 barrels of oil daily for purchase from owners of deep production, and will pay the usual West Texas crude posted price of 65 cents per barrel.

Shell Pipe Line Company is laying a six-inch welded line from a point on its 10-inch trunk line in the northwest quarter of section 143, block 29, W. & N. W. Ry survey, Howard County, to a field pump station in the northwest quarter of section 166, with four and six-inch gravity lines extending up to the producing properties of the Shermerhorn Oil Company and F-H-E Oil Company-Moody Corporation. The latter two properties were the first to give their connections to Roxana and negotiations are now pending for more connections with operators without a market outlet.

Allowed Runs From Yates Field Given Increase

Action gives field output equal to two and one-half per cent. of official potential; two West Texas fields rated over five million barrels daily

By H. H. KING
Staff Representative

FT. WORTH, Texas.—Allowable production in the Yates field was increased 7500 barrels daily to a maximum of 72,500 barrels effective 7 a.m. August 20th, as a result of the Gulf Production Company making request to resume running its own production from the field. The approval of this production increase was made by the Texas Railroad Commission August 18th in accordance with recommendations made by the proration committee. This increase in pipe line runs from the field enables each producer in the field to share proportionately by producing more oil, and gives the field a daily market outlet that amounts to slightly less than two and one-half per cent. of the estimated daily potential production, which was officially reported as being 2,997,252 barrels from 242 producing wells on August 1st by Umpire R. W. Richmond.

Gulf discontinued running its quota of about 5000 barrels daily in the Yates field early in July, and the Shell Pipe Line Company (Roxana) was assigned Gulf's connections by the proration advisory committee. Gulf has lately found need for this oil and an additional amount through having drawn on West Texas storage for the past few weeks, and made formal application for a daily quota of 7500 barrels. A small amount of "outside" oil will be run and purchased by Gulf from an adjoining lease to Gulf's Yates property to fill out on its runs, and rather than to reduce Roxana's purchases in the field the operators voted to raise the output from 65,000 to 72,500 barrels daily.

Revised Schedule

The revised schedule of market outlet for the Yates field is shown below:

	Barrels
Humble Pipe Line Company	25,000
Shell Pipe Line Company	18,000
Illinois Pipe Line Company	22,000
Gulf Pipe Line Company	7,500
Total	72,500

These companies are handling all oil produced in the Yates field, and no oil is being stored in the field by producers, or pipe line companies. Further increases in Yates field production may be granted in the near future because of declining production in Crane, Upton and other West Texas counties, and ample facilities are available to move 100,000 barrels daily via present pipe line systems serving the field.

Revised figures on the potential daily output of the Hendrick field, Winkler County, on August 15th, by Umpire Harold Pardee credit it with 2,087,548 barrels from 312 flowing and pumping wells. The allowable production in this field is restricted to 175,000 barrels daily, or slightly less than 8½ per cent. of the latest potential gauge. The number of 40-acre units with oil production increased from 117 to 148 between July 31 and August 15th, thus giving the field 5,920 acres of producing leases, as compared to 127½ units of 100-acres each in the Yates field. Only 76 wells were gauged for potential production at the beginning of the new 15 day period, starting 7 a.m. August 16 to September 1st. The north and east sides of the Hendrick field contributed to the bulk of the new producing units during the last period, wells in the Hendrick field that were not gauged for potential production at the beginning of the current period were penalized from five to ten per cent. on their last potential estimate.

The high mark on potential production of the Hendrick field is expected to be reached at the close of September, barring possibilities of unexpected extensions of the producing area, and field work has been steadily decreasing in volume for the past month, with only 12 derricks and rigs; 36 tests drilling above the big lime horizon; and 95 tests drilling in the big lime, or in process of completion, according to check made late last week.

Current allowable production in the Hendrick field is considerably below available pipe line outlet, which includes oil transported to local tank car racks and refineries, and operators are proposing an increase of the production to 200,000 barrels daily. This 25,000 barrel increase would be prorated proportionately among the various producers, and would hardly be sufficient to halt withdrawals from field storage by a number of independent producers, who contracted to deliver daily amounts of oil to local refineries and for tank car shipment prior to proration enforcement. This group of producers are not allowed to produce the amount that has been sold on contract. Potential daily production of the Hendrick field has been almost doubled since the last increase in allowable production was authorized on June 16.

HENDRICK FIELD PRORATION

Estimated potential daily production in the Hendrick field, Winkler County, Texas, on August 15 amounted to 2,087,548 barrels from 312 wells on 5920 acres of producing leases. The following official proration figures show the allowable daily production for each operator for the last one-half of August:

Company—	Units (40 Acres)	No. Wells	Potential Production	Allowance for Acreage	Allowance for Potential Production	Total Allowance
Southern Crude, R. A. Westbrook and Dixie Oil Co.	35¼	66	222,881	20,832	9,339	30,171
Roxana Pet. Corp.	13	31	266,606	7,683	11,176	18,859
Roxana & The Texas Co.	14	25	179,961	8,274	7,544	15,818
Magnolia Pet. Co.	2	8	1,587	1,182	67	1,249
The California Co.	2	6	15,144	1,182	635	1,817
Murchison and Cranfill Bros. Oil Co. et al	2¾	9	51,067	1,626	2,140	3,766
Independent Oil & G. Co.	6½	13	42,946	3,842	1,799	5,641
Marland Prod. Co.	2½	5	41,689	1,477	1,748	3,225
Prairie O. & G. Co.	2	4	60,930	1,182	2,553	3,735
Skelly Oil Co.	4	11	204,471	2,364	8,570	10,934
Pure Oil Co.	11	25	143,275	6,501	6,006	12,507
Gulf Prod. Co.	9	21	236,567	5,319	9,917	15,236
Atlantic Oil Prod. Co.	12	25	103,808	7,092	4,351	11,443
Atlantic-Collett & O'Keefe	4	10	218,783	2,364	9,170	11,534
Republic Prod. Co.	4 5/6	9	73,856	2,857	3,095	5,952
Humble O. & R. Co.	14	29	96,320	8,274	4,037	12,311
Texon Oil & Land Co.	4	8	30,135	2,364	1,263	3,627
Cranfill & Reynolds	13⅛	6	90,322	1,033	3,785	4,818
Winkler Oil Prod. Corp.	¼	1	7,200	147	302	449
Units not in production	3 1/6	..	.....	1,872	.....	1,872
	148	312	2,087,548	87,467	87,497	174,964

Expansion of development and increase in potential daily production since proration was applied May 5, 1928, is illustrated by the following comparative gauges:

Date gauged—	Number 40-Acre Units	Number Wells	Daily Potent. Production	Daily Allow. Production
May 5th	79	164	521,601	150,000
May 16th	82	173	643,973	150,000
June 1st	93	187	839,786	150,000
June 16th	105	210	1,060,083	175,000
July 1st	114	234	1,242,348	175,000
July 16th	128	260	1,376,861	175,000
August 1st	137	287	1,808,076	175,000
August 16th	148	312	2,087,548	175,000

St. Louis to Have Line Outlet of 100,000 Barrels

Tulsa.—Rapid work on new oil carriers into the recently proven prolific Wilcox sand area of St. Louis field is scheduled to increase the pipe line capacity to well above 100,000 barrels daily before September 1. Lack of sufficient oil outlets in this field has caused the curtailing of production and a slowing up of completion on new wells.

Independent Oil & Gas Company, one of the largest producers in St. Louis field, is laying a six-inch line from Section 19-7-5 in the Wilcox area of St. Louis to the southeast corner of Section 22-7-6, the south end of Little River field, about 11 miles east. A six-inch line from Section 22-7-6 to Independent Oil & Gas Company's station in Section 26-9-6, Seminole City field, giving the company a complete six-inch system, on completion of the St. Louis-Little River line, directly from St. Louis field to Okmulgee, site of the company's Oklahoma refinery. The company is completing plans for laying a six-inch main from Okmulgee to its Eureka, Greenwood County, Kansas, station, where it will connect with a six-inch line into Kansas City. This line was included in the property obtained from Manhattan Oil Company in the recent merger. Seminole and St. Louis field oils will then run directly to the Kansas City refinery of the company.

Oklahoma Pipe Line Company is laying a six-inch line from St. Louis field to Section 27-7-6, South Little River field, which will connect with its line running north from Salt Creek station to Seminole City. Capacity will be 15,000 barrels daily through this line.

Sinclair Pipe Line Company, which thus far has had the largest line capacity out of St. Louis field, has two six-inch lines running west from the field to its Tribbe station in the northeast corner of Township 7n-2e, connecting with the company's main through Oklahoma and into Montague County, Texas. Sinclair Pipe Line Company is laying a six-inch line from St. Louis field northeast, to Barnsdall Oil Company's discovery well in Section 14-8-5, will extend this carrier with a four-inch north, to its Earslboro station in Section 14-9-5.

Prairie Pipe Line Company is completing an eight-inch line from Wolf Station, Section 28-7-6, northwest to Lima Junction, connecting with its eight-inch line from Wewoka to Shawnee. It is a 20,000 barrel unit, and the distance is 10 miles. Also eight miles of eight-inch has been completed from Lima Junction to Earl Junction, at Earlsboro. Plans of the company are to increase this in the event a flood of oil warrants the work.

Independent Oil and Gas Company is also laying a six-inch line from Section 19-7-5, St. Louis field, north to Section 16-9-5, Earlsboro district, where the company has five 55,000 barrel tanks.

Shell Pipe Line Company has a four-inch line from the St. Louis area west to a point on its McCamey-Cushing main, north of Tribbe.

Consolidated Pipe Line Company has a six-inch line from Section 30-7-4, Pearson pool, to a point in Seminole City field, which connects with its old four-inch carrier to Sands Springs, where it has been delivering Pearson and Seminole to Pierce Petroleum Corporation's refinery.

Other line capacity out of the St. Louis field is had by Prairie Pipe Line Company and Magnolia Pipe Line Company.

Loops Will Increase Line to Chicago 50 Per Cent.

Tulsa—Sinclair Pipe Line Company officials announced August 17 that work will begin immediately on looping its present pipe line system from Drumright, Oklahoma, to East Chicago, Indiana, increasing the daily carrying capacity from 50,000 to 75,000 barrels.

Loops added between the 19 pump stations along the present system will amount to an addition of 360 miles of line, which will be of eight, 10 and 12-inch steel pipe, most of which will be 10-inch. The new pipe will be of much better grade than the standard pipe, and the new 10-inch pipe will be able to stand the same amount of pressure now applied to the eight-inch.

The new line project will cost $8,000,000. No financing will be necessary inasmuch as the company now has a reserve of $9,500,000 in its treasury. No new tankage addition will be required as an outgrowth of the added line capacity.

The additional 25,000 barrels of crude to be moved through the line will be divided equally between Sinclair Refining Company and the Standard Oil Company of Indiana. The present runs of 50,000 barrels through the Drumright-East Chicago line is being divided between these two companies, the Sinclair Refining Company taking approximately 27,000 and Standard Oil Company of Indiana taking 23,000 barrels.

The addition to the old Drumright-East Chicago system, which was laid originally as a straight eight-inch in 1923, increases Sinclair Pipe Line Company's total capacity in this country from 115,000 barrels to 140,000 barrels daily.

The new line will be welded, while the old line was of screw pipe. When the initial eight-inch line failed to serve the required amount of crude for the Chicago refineries, a loop was added all the way through, running an eight-inch from the pump stations north and tying in with a 12-inch at the low pressure end. The new line will be laid as intermittent units, covering about half of the actual total distance of the oil line, and 8, 10 and 12-inch will be laid according to the amount of pressure at the particular point.

Completion of the new addition is planned to be made before the close of 1928, according to officials of the company.

Sedgwick County

Tulsa.—Gypsy Oil Company, Marland Oil Company and Bu-Vi-Bar Oil Company's discovery 3½ miles north of Wichita, Kansas, near Valley Center, which opened a new productive area, the first in Sedgwick County, August 9, flowed an average of approximately 1500 barrels daily last week, producing from one foot of pay topped at 3367 feet.

This discovery, which is taken as the most important strike in Kansas in the past year, presents a case for argument among geologists as to the sand from which production is coming. Considered at first as the true Wilcox sand, it has later been classified as silicious lime from which much Butler County crude comes.

Owing to the close blocking of the owners of the well around its location, taking in roundly 3200 acres, offset drilling has been prevented, but nearby wildcat tests are expected to be going down shortly.

The interests shown in the discovery and the value placed on the surrounding acreage is exemplified by the fact that land two miles from the producer is bringing $500 per acre.

Derby Oil Company is taking the production through a four-inch line to a tank car rack nearby, and transferring it to its Wichita refinery. This is a temporary arrangement, and a line is scheduled to be laid direct within the near future.

Pondera and Bannatyne

Great Falls, Mont.—Interest in this territory continues to center, for the most part, in the activity at Pondera and Bannatyne fields, newly discovered in the Sweetgrass Arch territory between this city and the Kevin-Sunburst field. There were two more wells completed in Pondera during last week, and one at Bannatyne. This brings the total to 10 producing wells at Pondera, with an aggregate estimated production of 1000 barrels per day. The new wells are the W. E. Rice interests' State 1, and the California Petroleum Corporation's Kingsbury 1; the first has not been tested, but the second is good for 60 barrels.

The one completion at Bannatyne is that of the C. L. Archer interests on the Freeborn farm. It is reported that there is 900 feet of oil standing in the hole, but no production test has yet been made.

Chalk-Roberts Still Await Line To Handle Prorated Output

BIG SPRING, Texas.—The proration advisory committee for the Chalk-Roberts field, located on the Howard-Glasscock County line, held a special meeting here August 14 to provide rules for making tests of wells in the deep horizons for potential production, and voted to allow each operator to flow, swab or pump the wells when the 24-hour gauge is taken. Absence of gas in the deep horizons affords comparatively little natural flow from wells that will swab 100 to 150 barrels of oil per hour, and a number of the wells to be prorated will not flow.

This deep pay area was scheduled to be opened to a maximum of 15,000 barrels daily beginning 7 a.m. August 15 for 30 days, then receive a maximum quota of 25,000 barrels daily for the following five months. An official proration order applying to this deep pay area was issued by the Texas Railroad Commission August 4, and the operators have been delayed in carrying out the order by reason of no market outlet being available, and absence of lease tankage. The Shell Pipe Line Company will complete a six-inch line into the field late this week, while Humble Pipe Line Company plans to have an eight-inch line connected to the field by the middle of October. Magnolia Pipe Line Company has a combination six and four-inch in service, but this has been restricted to its own production. The Big Spring Pipe Line Company and the Cosden Pipe Line Company are at work on lines that will serve refineries building and contracted for erection near Big Spring.

Favor 24-Hour Test

The meeting of the advisory committee was called by Robt. T. Piner, chairman, and the members went on record as favoring a full 24-hour gauge of each well to determine its potential production. One hour gauges have been used in the Hendrick and Yates fields for determining potential yield of wells on all gauges, but much larger producers are encountered in these two fields. The Chalk-Roberts field proration committee also voted to give each operator 48 hours notice before Umpire E. E. Andrews starts gauging a producer, and in order to give all operators an equal break on production none of the wells will be produced after the gauge is taken until all have been tested. This rule made it necessary for Magnolia Petroleum Company to shut in four deep producers on the Dora Roberts land at 4 p.m. August 16. These four wells flowed and pumped 6739 barrels on the 24-hour gauge ending 7 a.m. August 16, including 4200 barrels from the discovery well of the 2900-foot lime pay.

Umpire Andrews will make his headquarters at Big Spring, and will be given a monthly salary of $500, with extra allowance made for automobile, stenographer and miscellaneous expenses incurred in carrying out his duties. Each operator in the deep pay area will be assessed proportionately on a basis of production to cover this proration expense.

HENDRICK FIELD OPERATIONS

The status of operations in the Hendrick field, West Texas district, at the close of last week is shown below by companies:

Company	Locations and Rigs	Drilling Tests	Tests in Big Lime	Completed Wells	Initial Produc'n	Average Produc'n
American Petroleum Corp.	..	..	1	..	....	....
Arizona Mining & Eng. Co.	..	..	1	..	....	....
Atlantic Oil Producing Co.	1	3	2	23	122,360	*10,400
Atlantic & Collett-O'Keefe	..	1	2	9	127,000	*13,300
Atlantic & Kessler-Logan	..	..	..	1	2,500	1,140
The California Company	..	..	..	8	7,550	1,600
Cranfill & Reynolds, Inc.	1	..	2	6	53,825	*6,800
Culberson Bros. et al	1	..	..	..	....	....
Eastland Oil Company	..	1	1	..	....	....
El Paso Production Co.	..	1	..	..	....	....
Gulf Production Co.	..	4	7	18	140,230	*12,640
Humble Oil & Refining Co.	3	3	..	30	93,070	*11,055
Independent Oil & Gas Co.	..	1	4	16	63,620	*4,545
Magnolia Petroleum Co.	..	..	..	8	12,335	1,540
Marland Production Co.	1	1	1	5	44,300	*2,790
May Production Co.	..	1	..	..	....	....
Murchison-Cranfill Bros. Oil Co.	1	..	1	8	42,675	*3,475
Clint W. Murchison & T. P. Lee	1	..	..	1	15,000	*200
Prairie Oil & Gas Co.	..	..	3	3	39,000	*6,135
Pure Oil Company	5	..	8	20	81,085	*13,710
Republic Production Co.	..	..	7	8	23,510	*6,940
Roxana Petroleum Corp.	..	..	6	28	179,730	*22,395
Roxana & The Texas Company	..	2	13	23	159,375	*12,780
Skelly Oil Company	..	..	4	9	136,900	*9,310
Southern Crude-Dixie Oil Co.	2	3	8	23	47,715	*6,870
So. Crude-R. A. Westbrook	4	15	19	36	114,670	*20,290
Texon Oil & Land Co.	..	..	5	6	25,275	*4,060
Winkler Oil Prod. Corp.	..	..	..	1	3,600	*240
Total	20	36	95	290	1,522,685	172,215
Total previous week	24	36	99	276	1,400,765	182,525

*Production partially pinched.

Portion of Llano Pool Eliminated

San Angelo. — Elimination of a portion of the prospective oil producing area in the Llano field, North Winkler County, appeared almost certain early this week when Roxana and Llano Oil Company's Scarborough 3 failed to encounter either oil or gas after drilling to 3290 feet in red beds. The Texas Pacific Coal & Oil Company's Daugherty 1, which is testing out a portion of the same area, offered better prospects with a rich oil saturated core in lime at 3025-3029 feet. The latter test is being drilled with rotary on contract by the Southwestern Drilling Company and was scheduled to bail and make test for production late Tuesday.

The Llano pool has two small pumpers, and one well flowing more than 1000 barrels daily with a large volume of water, but three miles apart. This area has been generally conceded as being the only potential flush oil producing area awaiting developments in the West Texas district, and considerable pressure was applied to the lease owners that proposed several months ago to start exploration work.

The Roxana-Llano test is located in the center of the southwest quarter of the southwest quarter of Section 3, Block 23, and is credited with having encountered the big lime at 2558 feet, with a surface elevation of 2939 feet. Texas Pacific Coal & Oil Company's Daugherty 1 is located in the southeast corner of Section 4, Block 74 and logged the big lime at 2894 feet, or 13 feet below sea level.

Humble Pipe Line Company will provide a connection promptly if a well is completed, as it is running more than 1000 barrels daily from the Atlantic and Kessler-Logan well.

Efforts of Southern Crude and R. A. Westbrook interests to extend the north end of the Hendrick field three-quarters of a mile in the drilling of their Hendrick 1-P, located at the center of the northwest quarter of Section 28, appeared discouraging early this week with the test logging salt formation at 2400 feet. The same interests' Hendrick 1-N, located in the southeast part of the same section, encountered the top of the big lime about 100 feet low as compared to the nearest production to the south, thus indicating a breaking off point on the structure.

Great Falls, Mont. — The largest gasser ever completed in the Kevin-Sunburst field is the Adams Company's Bethal 1, southeast of the northwest of Section 20-34-1w, on the John Adams farm; it is estimated at 100,000,000 cubic feet.

Concrete Base Around Casing Head Proves Big Economy

ANOTHER step of progress in maintaining old pumping leases to maximum efficiency has been made by The Texas Company on its A. E. Reynolds 160-acre farm 1½ miles west of Oilton, Oklahoma, in Drumright field. The Texas Company goes in for clean leases, better working conditions and keeping small wells on a profitable basis.

Within the past two years E. R. Pitcher, superintendent of The Texas Company's Cushing district, has equipped 26 wells on the Reynolds lease with concrete foundations. The slabs are octagon shape, approximately 10 feet in diameter and six inches thick, and slope slightly to the center where a hole for drainage has been made. The foundation fits tightly around the pipe just under the casing head, holding the string securely in place.

The outstanding asset supplied through use of such foundations is efficiency in pulling the wells. Ordinarily a pulling machine is practically impossible to keep perfectly balanced due to either mud or soft surface around the well. In using an A-Mast machine one leg will sink lower than the other when the heavy strain is made. With the concrete slab as a foundation for a firm setting, there is little chance of an uneven setting for the machine, and thus the rod or tubing string is not pulled out of line to endanger parting at a joint.

Another item of importance found in having concrete foundations is the cleanliness provided around the well. Pulling the well is no longer the dirty job it was in time of rains, and waste oil is conspicuous for its absence around the wells. Furthermore the use of concrete slabs allows for stronger bracing of the jack legs for steady pull with the shackle lines.

The Reynolds lease's 26 producers are from more than one pay horizon. Wells are producing from an average of 2500 feet, and are now making approximately four barrels net oil. The majority of these locations were completed in 1916.

Concrete foundations for old pumpers has made the rod and tubing pulling job more practical and permits cleaner work. Note a water well is also pumping at this location.

Government Fixes Price On Oregon Basin Crude

Cody, Wyo.—The controversy concerning the price to be posted for Oregon Basin crude between the mineral leasing division of the U. S. G. S. and certain producing interests in the field, is still unsettled. Director George Otis Smith of the Survey has fixed the minimum of 85 cents per barrel for the government's royalty oil, and states that this has been done in furtherance of conservation of oil; he points out that contract prices for oil sold from the field in the past (53 cents per barrel over a period of years) is not an economical proposition.

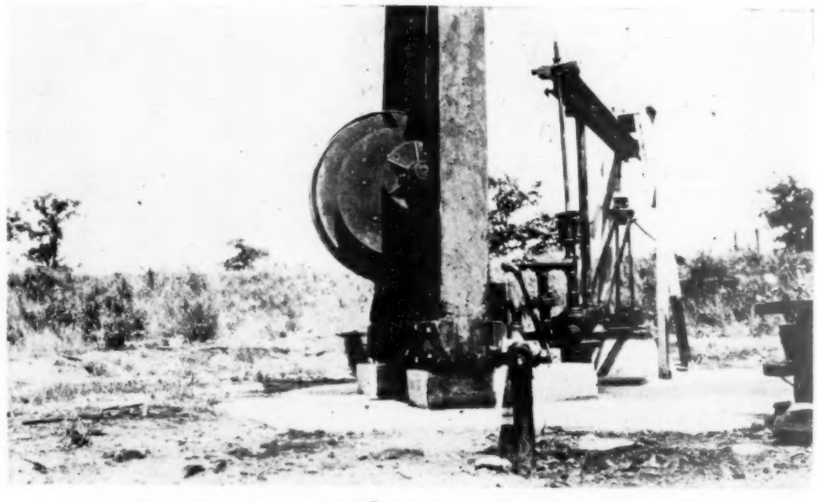
It is understood that there is a movement under way for all operators in the field to reach a mutual understanding in the establishment of a posted field price, to start with the government's recommendation. If this is done, it will provide for the adoption of several conservation measures also which will result in better prices for production, and will result in longer life of the field.

No Waste Here

Tulsa—An interesting factor in the completion of Independent Oil & Gas Company's Youts 1, the 21,000-barrel producer in the northwest of the northeast of the southeast of Section 19-7-5, St. Louis field, is the fact that not a barrel of the crude was wasted. Connections were made prior to the first flow, and no oil could be found on the derrick floor after the well had made its maximum flow of 965 barrels in one hour. This credited by Oklahoma operators as the one well in a thousand being held under such control on completion, especially with this amount of production being handled.

Caldwell County

Houston—In the new producing area of Caldwell County, located about two miles west of Lockhart, Cranfill & Reynolds now have their second producer, the Starcke 2. With the total depth of the hole at 1286 feet, the well, according to a recent report, was swabbing 25 barrels of oil per hour, together with some water. The Starcke 1, of the same concern, was completed for 70 barrels. The wells are in the Crenshaw survey.



How the pulling machine sits on the concrete foundation.

Rush Drilling of Deep Wells at Santa Fe Springs

Crude advance tends to clarify situation in California; Longbeach continues downward trend as completions are delayed

By BRAD MILLS
Staff Representative

LOS ANGELES.—Disregarding the possibility of a large production increase within less than six months, the Standard Oil Company of California has met actual existing conditions in California by increasing the price of refinable crude produced in practically every field in the state. The increase starts on grades above 21 graity produced in southern California and affects oil of 22 gravity and above in what is generally referred to as the northern fields. The boost became effective August 15 and was not officially announced until the afternoon of August 14.

This much-discussed increase came as a distinct surprise, although such a move before the discovery of a new productive sand at Santa Fe Springs was considered probable. In posting the new schedule, Standard Oil Company merely made the announcement that owing to higher prices offered by others, it would increase the price offered from one cent a barrel for the lower grades of refinable crudes to 59 cents for the highest grade. The increase for the grades which accounts for the bulk of production averages slightly over 15 cents per barrel.

The increase in the principal Los Angeles Basin fields starts with 21-21.9 gravity, which was boosted three cents per barrel. The new differential is three cents for each degree from 21-21.9 to 25-25.9 gravity, while from the latter figure to 32-32.9, the differential is two cents. This makes the new posted price of Long Beach, Seal Beach, Huntington Beach, Inglewood, Brea-Olinda, Torrance and Richfield crudes 89 cents for 21-21.9 gravity and $1.35 for 32-32.9 gravity. Some of these fields do not extend the full range, but the same increase applies to every field for the grades produced. Athens-Rosecrans and Dominguez crudes were increased the same as the above mentioned fields, as far as it went, but since these two districts produce oil up to 42-42.9 gravity, a new schedule was posted above the range of the other fields, or in other words, above 32-32.9 gravity. The new posted price of crude from these two fields runs 32 cents above the old schedule for 33-33.9 gravity and three cents additional for each degree up to and including 42-42.9 gravity, giving the highest grade an increase of 59 cents over the former price. The increase for Santa Fe Springs crude ranges from four cents for 21-21.9 gravity to 45 cents for 38-38.9 gravity, with a new posted price of $1.65 cents for 39-39.9 gravity, a grade not posted under the old schedule. Montebello and Coyote Hills crude was advanced, but on a slightly reduced scale.

The new schedule did not increase 21-21.9 gravity crude in the Midway-Sunset, Elk Hills, Buena Vista and Lost Hills fields, but started on the 22-22.9 product, which was boosted only one cent per barrel. Each degree above the initial change commands an additional three cents, with exception of 29-29.9 gravity crude, which was increased the same as 28-28.9 gravity oil. This makes the new posted price of crude from these fields 82 cents for 22-22.9 gravity crude and $1.40 for the 33-33.9 gravity product. The increase for Coalinga crude approximates that for the other fields. No increase was posted in the Newhall, McKitrick or Kern River fields, all of which produce only heavy oil.

Clarifies Situation

The underlying reasons for the increase were not announced in detail, but the boost will greatly clarify a delicate situation. There has been much agitation for an increase for six months. Many producers have contended that the retail price of gasoline warranted a higher price for crude, while others have cited the slight withdrawal on light stocks as ample reason why a new schedule should be made Deep down under the surface there was a strong vein of discontent and the increase will at least partially remove the friction. The possibility of a decrease in the retail price of gasoline probably influenced the action, also. In the Long Beach field, several small purchasing companies were paying premiums for crude. In posting the new price, it is believed that Standard Oil Company of California wished to adjust this condition. The price of all heavy oil remains unchanged.

The new price schedule will undoubtedly stimulate drilling in all light oil producing regions and has done much to offset the gloom caused by the discovery of a deep zone at Santa Fe Springs field. The small operators will benefit greatly by the increase, especially those producing small wells.

Drilling At Santa Fe Springs

One by one, the new locations at Santa Fe Springs are developing into drilling wells, and within two weeks more than 100 entries in the race for the deep zone will be striving to reach the common objective. Feeble efforts to curtail both drilling and production when it is developed have been made, but the operators are too excited to listen to compromises, and spurred on by the thought that big gushers lie ahead, are putting their shoulders to the wheel with renewed zeal. The knowledge of drilling conditions as far down as the Meyer zone is proving a real asset to the operators, who are making excellent time with new wells. Standard Oil Company has passed 3200 feet in a little over a week in one of its tests and is establishing a record not easy to beat. The necessity of drilling offsets has been one main reason for the large number of drilling operations. When wells are spotted near the edge of the many small leases, each new location is the direct cause of from one to three more locations. As a protective measure, the small leases are being drilled to prevent drainage. Only an agreement between practically every operator would postpone the orgy of drilling. Since one has never been reached among townlot operators, it looks as if Santa Fe Springs will be no exception to the rule. The field is going through a long period of suspense and it will be several weeks before much will be known of the possibilities of the deep zone. In the meantime, Wilshire Oil Company's discovery well is producing above 2000 barrels. Rumors that production is showing a larger percentage of water are heard, but have not been confirmed.

Long Beach Still Dropping

Long Beach seems unable to find a good stopping place in its drop from its former dizzy heights, resting well below 200,000 barrels at the end of the week. The long-expected cluster of completions has not yet arrived, and the natural decline of the field considerably more than offset the output of the six new wells. The average initial production of these completions was better than 1100 barrels, but a high percentage of water in four of the six wells lent a discouraging aspect to the situation. The condition of the wells may have played an important part in this poor showing, but it seems a very strange coincidence that two-thirds of the completions should be partially wet. Wells are starting in all parts of the field, new locations still keeping

pace with completions. More than a dozen wells are due for completion, but for one reason or another they have not been finished. When a bunch of wells are completed in one week, production will rise again, but there is almost every reason to believe that the peak is definitely past. The decline is not to be denied and new wells—lots of them—will be required to raise production far above 200,000 barrels again.

Long Beach Completions

Completions during the week were: California-Eastern Oil Company, Peacock 1A; initial production, 200 barrels; total depth, 5271 feet; gravity, 25.0; cut, 9.0 per cent.

George F. Getty, Inc., No. 27; initial production, 1200 barrels; total depth, 7474 feet; gravity, 27.0; cut, 20 per cent.

Shell Company, Coseboom 8; initial production, 750 barrels; total depth, 7132 feet; gravity, 27.6; cut, 15 per cent.

Universal Consolidated Oil Company, Judson 2; initial production, 200 barrels; total depth, 6207 feet; gravity, 27.0; cut, 2.2 per cent.

Richfield Oil Company, Haas 11; initial production, 1900 barrels; total depth, 6367 feet; gravity, 21.3; cut, 40.0 per cent.

Warren & Macrate, Neet 2; initial production, 1250 barrels; total depth, 5951 feet; gravity, 29.2; cut 0.2 per cent.

California-Eastern Oil Company's Peacock 1-A is the most extreme eastern producer in the field, being located near State and Loma Streets. The well is on the compressor and was not completed in the deep zone.

More than 1000 loads of mud have been pumped into L. T. Edwards' Mickelson 1, which blew out from about 1800 feet several weeks ago, but the suction pipes of the pumps still show a slight vacuum. Since the blowout was at a nominal depth, wells producing in the deeper zones have not been affected.

Huntington Beach

Completion by the Standard Oil Company of a 1440-barrel well in the Huntington Beach field is attracting more than casual interest, even amidst more critical developments. The well —P. E. 16—is located along the Pacific Electric right-of-way, along the edge of the ocean, and was completed at 4323 feet. The casing pressure is above 1000 pounds, with a tubing pressure of 510 pounds. Standard Oil Company has the exclusive lease on a narrow strip between the tracks and the ocean, and the performance of the well is partially due to the fact that a wide highway cut off drilling for more than 100 feet. F. E. Bundy sprang a real surprise by completing his No. 1, located on a large lease in somewhat doubtful territory, as a 175-barrel well. The test is undoubtedly producing from the heavy oil zone found inside the field, having been completed at 2175 feet. This completion means that it is possible to develop a larger production from the tar sand, as well as from the lower zones. The Bundy lease occupies a part of the old Methodist camp ground. Recent completions in the field include the Belle of Montebello Oil Company's Van 8, a 100-barrel producer from 4855 feet, the Colonial Oil Company's No. 2, which was re-completed at 2080 feet with an initial production of 100 barrels, and R. T. Leonard's Topeka 1, a 35-barrel well at 2140 feet. Some talk of a deep test is heard but no definite plan for such a well has been drawn. Several deep tests have been made, but they were not regarded by some as representative wells.

Seal Beach

The Marland Oil Company has placed Selover 12, the deepest well yet drilled in the Seal Beach field, on a production test, having cemented a string of 4¾-inch casing at some point below 6500 feet to test the bottom of the deep zone found last fall. The well is flowing into the sump, but does not promise to cause a sensation. Marland Oil Company has not disclosed the depth at which the final shutoff was made. Total depth of the well is about 7000 feet. The company is drilling below 6600 feet in both Selover 12 and 14, also intended as tests of the deepest zone. Wells completed, with one exception, have not shown the life necessary to start intensive development. Petroleum Securities Company's Naples 2 was completed several weeks ago at 6955 feet, but made a miserable showing, even on the compressor. Marland Oil Company's Selover 12 will need to be a good well to create additional enthusiasm.

Hawthorne

The Smith Petroleum Company has started drilling in Peck-Berry 1, located about 500 feet northeast of the San Clemente's discovery well in the new Hawthorne field, being the first active entry since commercial production was developed early in July. Smith Petroleum Company drilled a well on the Johnson property, a short distance northwest of the San Clemente's holdings, about two years ago but failed to effect a water shutoff. The well produced a small quantity of oil from 6215 feet and is now being cleaned out in an effort to find the productive zone in the discovery well. The San Clemente Oil Company will start another well on the Peck property before the end of August, to comply with certain clauses in the lease.

Inglewood

The possibility of a number of deep tests in the Inglewood field has aroused intense interest in all quarters, due to the high regard many leading geologists hold for the lower zones in this area. The petroleum industry as a whole is far from anxious to see the deep zones developed at this time, although the operators have the same right to proceed that others have exercised in other fields. The starting of a few wells by one company would certainly result in an orgy of drilling. The field is rather small and all inside tracts would be re-developed.

The Associated Oil Company has succeeded in reaming to the bottom in Voorhees 1, which promised for a time to establish a drilling record in the field. The hole was drilled to its present depth of 4485 feet in a very few weeks, only to develop a difficult fishing job. The company's Pacific-Southwest 1 is drilling at 4440 feet, with the formation running to hard brown shale. Cypress 3 is coring in shale and shells at 3068 feet. The recent release for drilling of a large block lying in the southeast part of the city was expected to result in the drilling of several wells, but only two tentative locations have been made. If the Potrero field lies in the same general direction as other fields along the major fault line, leases northwest of Associated's discovery well may be productive.

Edison District

General Petroleum Company has been unable to make a commercial producer of Kerwin 1, the company's first test of the Edison district. The well was plugged back to 3945 and put on the pump, but has failed to make an impressive showing. Production is now averaging 65 barrels, water and sand accounting for about 20 per cent of the total. The well showed signs of making a commercial producer when first drilled to 4000 feet, but a decision to try the lower levels was reached, only to be forced to back up after drilling pas 6000 feet. The company's No. 5, Section 32-29-29, is drilling below 1750 feet. Midway Northern Oil Company has drilled out the cement in Brown 1, Section 29-29-30, a test in an entirely different part of the supposed structure, but has not yet had the 6¼-inch shutoff at 3465 feet approved.

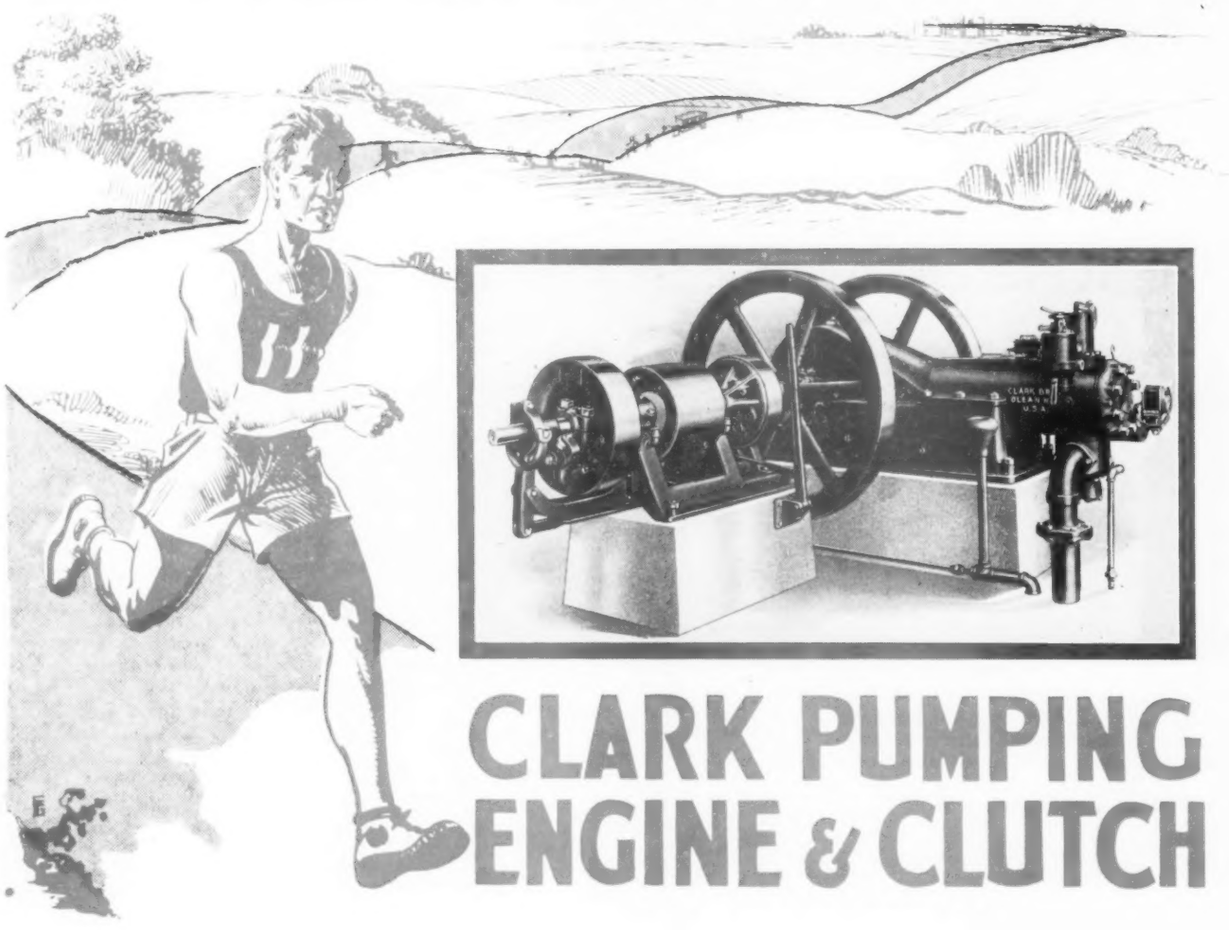
Pacific Eastern Production Company is rigged up and ready to spud in KCL 4, another test of the Union Avenue district, having expressed dissatisfaction at what it has accomplished to date. No. 3 is still flowing four million cubic feet of gas from 4417 feet, but has shown no tendency to produce more than a small mist of oil.

Cores taken from W. W. Stabler's Tejon 1, Section 23-32-29, a test of the Comanche Point anticline, still show a slight cut although the well is more than 100 feet deeper than when about 90 feet of poor oil sand was tested at 2632 feet. The present formation shows little life, but oil and gas showings at fairly regular intervals make the well an interesting wildcat test.

Fruitvale

An additional 1200 foot of hole has failed to improve the status of the Pacific Eastern Production Company's KCL 1, a deep test of the Fruitvale

ENDURANCE



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CLARK

Say you saw it in The OIL WEEKLY

field. The formation at 5100 feet is a hard sand, no signs of the productive zone remaining. This well ushered in the field, producing at the rate of 200 barrels until killed to deepen. Production came from 3850 feet, the well producing from only 14 feet of sand. In deepening the well, the rich oil sand continued for a short way, a poorer sand followed and the producing zone ended entirely after a few hundred feet.

Attracted by the wonderful performance of the Rio Grande-Barnsdall discovery well in the new Elwood field, near Santa Barbara, several major companies have acquired leases along the edge of the structure. Meanwhile, Luton-Bell 1, the discovery well, is flowing 2500 barrels of 38 gravity oil. Rio Grande and Barnsdall have spudded in a second well and expect to complete the test within a month.

After a three week's test, Chanslor-Canfield Midway Oil Company's No. 4, Section 7-32-23, is yielding about 2200 barrels of clean oil, definitely establishing the new deep zone among the major producing formations of the Midway field. The well started at a 3500-barrel clip, jumped to 200 barrels an hour for a short time, and settled to about 2500 barrels after a few days. The decline during the past 10 days has been negligible. Gas production is 1,400,000 cubic feet and the oil is entirely clean. The company's No. 29, Section 8-32-23, which was placed on the compressor after it showed evidence of lacking the necessary pressure to lift the oil, is temporarily off production, due to compressor and other mechanical trouble. The well flowed above 1000 barrels for three weeks, having been the company's first completion in the deep zone. The Republic Petroleum Company's discovery well on Section 8 is still flowing 1000 barrels, after producing steadily for several months. This new zone seems to hold possibilities and may play an important part in Midway production when heavy oil is in demand. The gravity of the crude is about 22, making it not especially desirable at this time. Republic Petroleum Company is drilling two more wells and their completion should give a better clue to the extent of the zone.

Round Mountain

The Round Mountain field, a close neighbor to Kern River and Mt. Poso, is not seeing as much action as was promised soon after it was discovered 15 months ago. The Honolulu Consolidated Oil Company, which acquired the bulk of the leases from the Elbe Oil Company, suspended operations several months ago, and the Shell Company has made no special effort to develop its leases. The General Petroleum Corporation has been forced to abandon Conroe 1, Section 30-28-29, after wrestling with water for several weeks. The well was originally drilled to 2060 feet, but plugged back to 1775 feet for a test of the upper zone. Production was 10 barrels of oil and about five times as much water. The well was located slightly off structure and helps to define the probable producing limits of the area.

The Shell Company has abandoned Cohn 2-1, Section 22-2-22, a shallow test of the Oxnard plane, in Ventura County. Shell Company has a large block of leases in this district and has done much sub-surface geological work in connection with the idea of deep tests if conditions warrant such an undertaking.

The Richfield Oil Company, which recently agreed to finish the wells started by the Miley Oil Company in the Rincon field, is coring at 6410 feet in Hobson 1, the most important deep test in the area. Miley Oil Company drilled the well to 6398 feet, but without results. The possibility of a deep sand is beginning to shrink, although it is possible to pick up a zone at still greater depths. Developments in southern fields have so completely overshadowed operations in this district that the field is regarded as only a minor factor.

Recovery Investigation Report Covered in Engineers Paper

Tulsa.—A paper of outstanding interest to petroleum engineers, entitled "Oil Recovery Investigations of the Petroleum Experiment Station of the U. S. Bureau of Mines," has been prepared by Van A. Mills, Joseph Chalmers, and J. B. Desmond of the engineering staff of the United States Bureau of Mines, Bartlesville, Oklahoma, for presentation at the meeting of the Petroleum Division of the American Institute of Mining & Metallurgical Engineers at Tulsa, October 18 and 19, immediately preceding the International Petroleum Exposition. This paper gives some real live information on percentage recoveries by ordinary methods, percentage recoveries by repressuring, methods of estimating reserves recoverable by repressuring, and other useful information.

The Authors

The authors of this paper are engineers of wide experience in the petroleum engineering field and have done a great deal of experimental work along the line of oil recovery. Many interesting results of their experimental work are set forth in this paper.

Mr. Mills, who is a graduate of the School of Mines, Columbia University, New York, is a petroleum engineer of national reputation. After several years' experience as a mining engineer in the United States, Canada, Mexico and China, Mr. Mills entered the U. S. Geological Survey. In 1918 he was transferred to the U. S. Bureau of Mines, where he continued his research work, making experimental studies of underground conditions, which include the migration of oil, gas and water in the sands. He also made extensive investigations in connection with the recovery of oil by air drive, by gas pressure, and by water pressure; the causes and effects of water coning and methods of preventing this; corrosion in oil and gas fields, and methods of prevention, etc.

Joseph Chalmers, another of the authors of this paper, is a graduate of the University of California. Mr. Chalmers spent a number of years doing sub-surface work in connection with drilling, deepening, and repair work on oil wells for the Pacific Oil Company in the Sunset Midway field. During the past two years he has been connected with the oil recovery research work at the Bartlesville station of the U. S. Bureau of Mines.

John S. Desmond, the third co-author of the paper, graduated as a chemical engineer, from the University of California. From 1920 to 1925 he was engaged in general research work in oil recovery and conservation at the San Francisco station of the U. S. Bureau of Mines. From 1925 to the middle of 1927 he was in charge of the Bureau of Mines Experimental Oil Shale Plant at Rulison, Colorado, and since July, 1927, has been connected with the Oil Recovery Section of the Bartlesville Petroleum Experiment Station of the Bureau of Mines.

Subjects Covered

Below are some high points of the subjects covered in the paper by Mr. Mills, Mr. Chalmers, and Mr. Desmond:

1. Laboratory experiments in which air was circulated through oil in sand at atmospheric temperatures show loss of oxygen from the air as evidenced by steady decrease in the oxygen-nitrogen ratio of the air upon continued circulation through the oil, which has a direct bearing on bad oil trouble experienced in properties being repressured with air.

2. Laboratory experiments indicate that the percentage recoveries of oil originally occurring in sands may be somewhat higher than the 15 to 20 per cent that has been supposed.

3. As much as 100 per cent or more of the oil taken from sands by ordinary methods may be additionally recovered by repressuring operations.

4. Pressure maintenance and early repressuring have a distinct advantage over late repressuring where the time element in the recovery of oil is of prime importance. This advantage may be offset by the excessive gas-oil ratios which would inevitably result if maintenance of pressure is carried beyond its beneficial stage. Relative to ultimate production, the stage at which pressure is applied apparently has little effect.

5. Possible detrimental effects of the continued use of air in repressuring.

Champagnolle Has Two Good Wells In Extension

But showing in older area is not so encouraging; one flowing oil well and two gassers completed in Trinity at Cotton Valley

SHREVEPORT, La.—Two good wells on the eastern extension of the Champagnolle field and a flowing well and two large gassers in the Trinity sand of the Cotton Valley were the outstanding features of the last week in the North Louisiana-South Arkansas-East Texas territory.

The two border wells in Champagnolle comprised half of the producers in that field which recorded seven failures and two gas wells along with the four producers. The original Champagnolle pool was uncovered in Section 1-7-14 and later was extended east into Section 6-17-13. However, until the last week wells in the latter section were of small capacity. The two latest wells, Ohio Oil Company's Carroll 2 and Lion Oil & Refining Company's Union Sawmill 1, are of larger production, the former being estimated as good for 700 barrels daily and the latter 400 barrels. Four million feet of gas is coming along with the oil in the latter well which blew out while operators were coming out of the hole preparatory to bailing.

Cotton Valley's Trinity sand development which has remained comparatively dormant since the decline in the yield of the Ohio Oil Company's two Bodcaw gushers in the deep pay began a sharp recession, and following completion of a series of small gassers and several failures, came back this week with a producer and two good gassers from the 4600-4700-foot horizon. Woodley Petroleum Company's Lewis 1, in Section 15-21-10, is flowing 140 barrels from 4697 feet, along with four million feet of gas. Humble Oil & Refining Company's R. R. Cox 4, Section 22-21-10, gauged 35 million feet of gas at 4640 feet while Magnolia Petroleum Company's Aarnes Cox in the same section is good for 40 million feet at 4663 feet.

Sarepta Gas Field

In the eastern extension of the Sarepta gas field in Webster Parish, Bethany Oil & Gas Company's O'Bier 1, in Section 31-23-9, gauged eight million feet of gas at 2650 feet and Bruce Richardson's C. O. Bailey 1 gauged a similar amount at 2754 feet in Section 29-23-9.

It was the latter operator who early this summer completed Mayfield 1 in Section 28-23-9 at 2800 feet as a small producer in this area and practically midway between the eastern edge of the Sarepta gas field and the western border of the old Haynesville field which reaches a short distance over into Webster Parish. Since that time there has been more or less of a small drilling campaign under way in this area and several small gassers have been the result.

R. O. Roy's Fuller 1 in Section 6-13-13, De Soto Parish, a rank wildcat completed August 5, and estimated as a forty million foot gasser, with total depth of 2827 feet, remains closed in although the pressure gauge was reported to have shown 1230 pounds. The light surface equipment with which the well is rigged up is assigned as the reason for not opening the well. The nearest production is the old Naborton field in DeSoto Parish which is approximately 20 miles to the southeast.

Salt Water at Champagnolle

Salt water holes are evidently making operators go slow in further drilling in the Champagnolle field as is evidenced by the fact that of the 18 new locations made in the North Louisiana-South Arkansas-East Texas territory only one was for a test in Champagnolle. There were, however, two wildcats in Union County, just outside the field, included in the wells planned to be started immediately.

O. W. Estes has made location for Rowland 5 in Section 14-17-14, being the only Rainbow well for which location was made. In Union County Stark and associates have made location for Powell 1 in Section 35-18-15 and Tharpe Drilling Company in 25-17-15 of the same county will drill List 1.

In the Ouachita County portion of the old Smackover field, the Little Fay Oil Company has made location for Primm 1 in the southwest of the southwest of Section 24-15-16.

Wildcatting will get its part of the new Arkansas locations made during the week as Arkansas Natural Gas Corporation has made location for T. J. Tate 1 in Section 4-9-4, Cleveland County; in Calhoun County Phillips Petroleum Company has made location for Arkansas Land & Timber 1 in Section 29-16-12; in Ashley County J. C. Morcum will drill DeYornbert 1 in Section 5-19-14.

The Nevada County, Arkansas, proven field also gets one new location, Humble Oil & Refining Company's Graves B-6 in Section 1-14-21.

New Louisiana Wildcats

The ten Louisiana locations include plans of R. O. Roy for the re-opening of an abandoned well in 4-13-13, DeSoto Parish, in the adjoining section to his Fuller 1 in 3-13-13, the wildcat gasser which he fears to open. The well to be deepened is Roy's Whittaker 1.

In Webster Parish Magnolia Petroleum Company plans two tests in Section 5-22-9, north of Cotton Valley. Locations have been made for M. Branton 1 and W. S. Bond 1 in that section.

The Trinity sand horizon of the Pine Island field in Caddo Parish has two of the week's locations, Dixie Oil Company's Robertshaw 95 in southeast of the northwest of 13-21-15 and Shreveport Oil Corporation's Etchison 1 in 32-21-15.

Elm Grove

The Elm Grove gas field in Bossier Parish received one new location, the Palmer Corporation's Jeter 1 in Section 24-17-12. The Richland Parish gas field will get two new tests, Magnolia Petroleum Company having made locations for M. L. McCoy 1 in 29-16-6e and for J. Sartor 1 in 16-16-6e. The Madison Parish wildcat territory is the location for a test, Mid-American Petroleum Company's Yerger 2 in Section 51-16-14e.

Another edge well in the old Urania field of LaSalle Parish is in prospect, M. H. King having made location for King 1 in Section 13-10-1e.

The seven producers completed in the tri-state territory during the last week added a total of 1586 barrels new yield as compared to 205 barrels from three producers the week before. The week just closed also accounted for seven gassers and ten failures, seven of the latter having been in the Champagnolle district.

Caddo Parish added only well during the week, Dixie Oil Company's Dillon 94 in 14-21-15 (Pine Island) pumping 25 barrels. In the Bethany gas area of Panola County, Magnolia Petroleum Company added Ella Baker 4, the B. C. Jordan survey, as a two million foot gasser at 985 feet. In Shelby County, Texas, the Chapparral Oil Company's Holt 1 in the Matthew Moore survey was junked and abandoned at 2980 feet.

Arkansas Completions

In the Calhoun district of Ouachita County, Arkansas, the only completion during the week was a failure, Frank B. Wood, trustee, completing Spahr 3 in Section 35-15-16 at 2418 feet as a duster. The El Dorado district of

Union County fared but little better. Humble Oil & Refining Company's Latark Fee 1 in Section 3-16-15 was completed as a 30-barrel pumper at 1965 feet in the Graves sand, but W. R. Keever's Ezzell A-6 in Section 12-17-15 was a salt water hole at 2136 feet.

In Champagnolle J. E. Crosbie's H. N. Brown 1, Section 8-17-14, was a duster at 3354 feet while O. W. Estes Rowland 2 in Section 14-17-14 was a salt water hole at 3368 feet.

Southwest by more than a mile of the producing area of Champagnolle and a similar distance northeast of the old Calion (East Field, El Dorado) district, Garrett-Modisette Drilling Company completed Pyron 1 in Section 21-17-14 as a duster at 3059 feet. This well is in the same section and a quarter of a mile east of Root Refineries' Jerry in which was completed several weeks ago as a producer and formed a link between the Champagnolle and Calion areas.

Hollyfield and McFarlane's Kelly 1 in Section 9-17-14 on the western border of Champagnolle, is flowing by heads through casing at a depth of 3223 feet, at the rate of 150 to 200 barrels daily, free of water. Lion Oil & Refining Company completed Rowland 4 in Section 15-17-14 as a failure, junking the hole at 2730 feet. The same company added Sinclair 4 in Section 16-17-14 as a twenty million foot dry gasser at 2768 feet.

Magnolia Petroleum Company's Gregory 1 in Section 15-17-14 was gauged as a 47½ million foot dry gasser with 1000 pounds rock pressure at 2852 feet. The Oilwell Corporation obtained two salt water wells in its Ezzell 2 and W. H. Perdue B-2 in Section 3-17-14 and 10-17-14 respectively, the former being completed at 3283 feet and the latter at 3300 feet. Skelly Oil Company broke even with two new wells, one being a producer and the other a failure. Its W. H. Perdue 4 in Section 10-17-14 is pumping 91 barrels daily at 3267 feet while No. 5 in the same section, tested salt water at 3363 feet.

Protest Extension of Royalty Oil Contract Made by Fall

Washington.—Another of the oil contracts executed by former Secretary of the Interior Albert B. Fall is under scrutiny by the Department of Justice, it has been learned here. L. L. Marcel, of Kansas City, president of the White Eagle Oil Company, and others have challenged the validity of a contract held by the Sinclair Crude Oil Purchasing Company which had been extended for a second five-year period from January 1, 1928.

No Fraud Alleged

There is no taint of fraud alleged in the challenge, but there is raised the question of the right of the then Secretary of the Interior to grant to the contractors the option of renewal under the conditions surrounding the making of the contract. The protest was made to the Department of the Interior and by it certified to the Department of Justice because of the belief that the contract was in law both proper and binding. In the event that the Department of Justice holds to the contrary and the contract is vacated, new bids for the oils would be sought. An idea of the magnitude of the stakes involved in this controversy may be seen from the fact that since making the contract in 1922 the contractors have purchased approximately 20,000,000 barrels of oil valued at some $34,000,000. The complainants allege that if the royalty oils were sold today under competitive bidding the government might receive as high as $2,000,000 a year more than under the existing contract.

It has been suggested here that some of the refineries in the neighborhood of the Salt Creek field are finding themselves rather badly in need of oil with which to continue their operations. Therefore, if the government should readvertise the sale of this royalty oil it probably could get a bonus over the present contract price. To what extent the government would so benefit is not stated. If the Department of Justice agrees with the Department of the Interior that the contract is valid, nothing can be done about it until the expiration date five years hence.

In 1922, 13 companies bid in response to advertisements for a five- or a 10-year contract. The bid of the Mammoth Oil Company, a Sinclair subsidiary, was the highest, records here showing that in the then opinion of the Bureau of Mines it was nearly 50 cents a barrel in excess of prevailing field prices. The White Eagle Oil Company was among the bidders which failed to make as an attractive offer as the Mammoth Oil Company. No complaint was entered against the contract at that time.

Later, however, the Sinclair interests had the Mammoth Oil Company transfer its contract to the Sinclair Crude Oil Purchasing Company, owned jointly by Sinclair and Standard Oil Company of Indiana interests.

Extension Clause

When negotiations for the transfer of the contract were entered into between Fall and the Sinclair interests, a limit on the amount of oil the purchaser would take under the original contract was removed and in the five-year contract growing out of the transfer there was inserted a clause, giving the Sinclair interests the right, upon legal notice, to renew the contract for another five-year period.

With the contract for this royalty oil ostensibly expiring December 31, 1927, other companies thought they would be given an opportunity to bid for the product. But on June 4, 1927, H. T. Phillips, president of the Sinclair Crude Oil Purchasing Company, elected to exercise the option and formally notified the Department of the Interior to that effect. Some oil men evidently knew of the existence of the option for it is said that J. A. Phelan and, later, W. G. Williams, both of New York, protested in writing to the Interior Department against the renewal of the contract on the ground that it was illegal, suggesting that Fall improperly had placed it in the 1922 contract.

Fall Handled Personally

Fall, it is said, handled the contract himself. Why he wrote into it or permitted to be written in the renewal option now under attack, is not known to present officials of the department. It is assumed that he was urged to do so by the Sinclair interests because they were building a pipe line to the field, that this would make competition and raise the price, and that they needed a longer contract for the oil. But the facts in the matter have not been disclosed and the records do not show the reasoning back of the action. The leasing law gave the Secretary of the Interior rather broad powers in the selling of royalty oil and the opinion of the solicitor of the Department of the Interior was that the contract, with its option for renewal, was binding in the absence of a positive showing of fraud.

No effort is being made by the protestants to connect this contract with other agreements involved in the oil scandals in which Fall and Sinclair were named. When the complaints were received from the New York men the latter were requested to submit any facts they might have in their possession. The Department's solicitor then made an exhaustive study of the contract in the light of the oil land leasing law. The Kansas City group, attacking the validity of the option only, asserted that instead of renewing the contract thereunder, the government should have called for new bids.

It is understood that the Department of Justice has had the matter before it since as far back as April, but has come to no conclusion thereon. Just when its decision will be announced cannot be foretold, but, it is said, whatever form it may take will govern the action of the Department of the Interior.

The True* Story o' Sandy MacQuosh

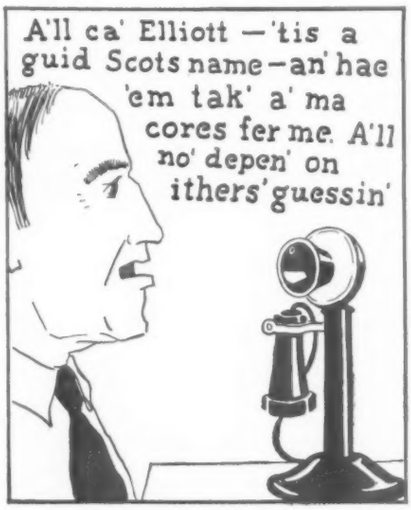
[A canny Scot if there ever was one]

Sandy at the braw age o' thir-r-r-ty

*If not strictly true, at least quite possible—even probable—in every respect.

SANDY MacQUOSH had decided to drill an oil well. Sandy, in his canny Scottish way, had investigated everything before he decided, and he was immune to the suasions of his well-meaning friends, who predicted failure and the ultimate loss of Sandy's savings.

So he started. And he determined to be economical. He listened to his friends, fellow operators on neighboring leases, who offered him their logs to go by. "Ye'll save



Sandy gets the right idea

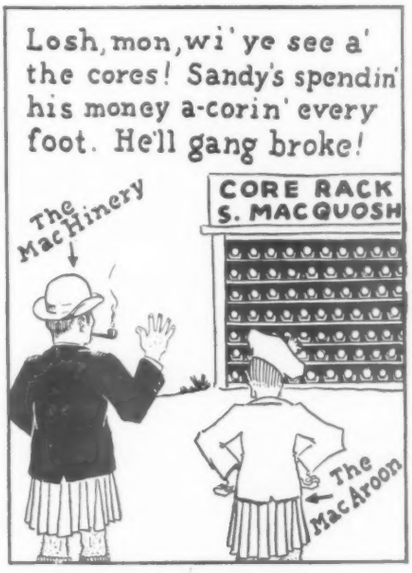
money this way, Sandy," said they, "Din'ye waste yer money hirin' someone to core yer well till ye get where we stopped."

But we said Sandy was canny. He thought it over, and "A'll no be missin' promisin' sands through guessin'" he ruminated. "A'll be certain sure. A'll ca' Elliott. The mon has a braw Scots name an' he'll no' fool me." He did call, and he listened to the recommendation he got from the Elliott experts with only on occasional shudder; for they said, "Mr. MacQuosh, you're taking a chance on losing part of your investment if you don't core practically continuously. Showings from another well may be perfectly correct, yet the strata may be different under your well. We recommend in this particular case that you core all the way."

Sandy was stubborn, and regardless of the tearful importunities of his friends, decided to take Elliott's advice. His Caledonian compatriots used to come out and gaze at Sandy's rapidly filling core rack with dismay. But Sandy went on, and discrepancy after discrepancy showed up between his cores and his friends' logs. Finally he found a gorgeous sand where his friends' logs showed shale.

He set his screen according to his cores' showing, and to make a long story short, he got everything there was to get out of his well. And his friends, being Scots themselves, thereafter called Elliott whenever they decided to put down another well. And all lived happily—and prosperously—thereafter.

The moral? Never take a chance on the other fellow's showings—whether his well is a hundred yards or a hundred miles


Losh, mon, wi' ye see a' the cores! Sandy's spendin' his money a-corin' every foot. He'll gang broke!
The MacHinery
CORE RACK S. MACQUOSH
The MacAroon

Sandy's friends view with alarm

Scots wha hae no weels as yet A'll tell ye this — din'ye ferget — Ye paste this knowledge in yer sporran — Get Elliott to do yer corin'
'Tis the Laird MacQuosh
Aye, he's a rich mon frae his oil weels
Ben Lomon'
Scots

Sandy advises his fellow-countrymen

away. He **might** be wrong; the formations **may** lie differently under **your** well; a hundred things **may** influence your final production. Know what **you're** drilling through—that's where **your** oil is coming from! There's no obligation in asking us for advice—and millions of feet of successful cores recovered gives us a background upon which to base sound advice. Call us!

ELLIOTT CORE DRILLING CO.
850 Subway Terminal Building
LOS ANGELES, CALIFORNIA

BRANCHES:
3210 Harrisburg Blvd., Houston, Texas
15 So. Madison St., Tulsa, Okla.
618 Lake St., Shreveport, La.
104 Brien St., Beaumont, Texas
Elms Specialty Company
516 Seventh St., Wichita Falls, Texas

Export Office:
150 Broadway, New York

Elliott - Coring Experts

Yocum New Executive of Oil Burner Organization

New York.—Trell W. Yocum, one of the executives of the American Petroleum Institute, and well known in both the oil and the publishing fields, has been elected managing director of the Oil Heating Institute and the American Oil Burner Association. This announcement was made by Leod D. Becker, the present managing director, who has been at the head of the two related organizations since their establishment six years ago, and who, for some time past, has wished to retire from the office so that he may devote all his time to his publishing business. His resignation is to take effect October 1.

"The present work and future growth of the American Oil Burner Association and its affiliated organization, the Oil Heating Institute," says Mr. Becker's announcement, "require the undivided attention of the executive in charge.

"In Mr. Yocum, the directors have chosen a man ideally fitted for the increasing responsibilities of the position. He is a seasoned association executive. He will bring to the oil burner industry a thorough familiarity with the oil business, and his wide acquaintance with the leaders of the oil industry will be of material benefit to both the oil and oil burner industries. His selection emphasizes the growing importance of oil heating and the readiness for cooperation on the part of the oil industry which was shown last December by the endorsement of oil heating on the part of the directors of the American Petroleum Institute.

"My interest in the oil burner industry and my faith in the future of oil heating are stronger than ever. This year's sales are averaging close to 40 per cent greater than last year. There was never such confidence and desire for oil heat on the part of home and building owners as now exists."

TRELL W. YOCUM

Mr. Becker continues as a member of the Board of the Oil Heating Institute and the American Oil Burner Association.

Mr. Yocum was born in Mechanicsburg, Ohio, in 1893, and graduated from Ohio State University in 1914. After leaving college he engaged in newspaper and magazine work in Cleveland. When the United States entered the war, he joined the first Officers' Training Camp at Fort Benjamin Harrison, but shortly after was incapacitated for military service by temporary physical disability following a major operation. From 1917 to 1919 he was a member of the staff of Herbert Hoover. From 1919 to 1924 he was with the Crowell Publishing Company, first as managing editor of Farm and Fireside, and later as managing editor of Collier's. In 1924 he became secretary, and later director, of the Committee on Public Relations of the American Petroleum Institute, a position he holds at the present time. He resides at Indian Head Point, Riverside, Conn.

RALPH L. MORTON, JR.

Morton Named Treasurer Empire Companies

Tulsa.—Ralph L. Morton, Jr., has been named treasurer of the Empire Gas & Fuel Company and subsidiaries, succeeding D. W. Harris, who resigned recently to become vice president and general manager of the Arkansas Natural Gas Corporation, also a Doherty concern, with headquarters at Shreveport, Louisiana. Mr. Morton has been assistant to his predecessor since September 1, 1920. He was elected assistant treasurer of the company January 15, 1924.

Ross Representing Bureau of Mines at Shreveport

Shreveport, La.—J. S. Ross, petroleum engineer, representing the United States Bureau of Mines, is now stationed at Shreveport, and has an office at the headquarters of the state department of conservation. Mr. Ross arrived here about the middle of July, and since then has been making an investigation of the Cotton Valley field, with special reference to the Trinity sand production, very little being known as yet concerning that sand.

In making the investigation he is gathering logs and mapping out the field, correlating sands, compiling engineering data, finding where water is coming from, and working on other related problems. Incidentally, Mr. Ross is making a study of the Pine Island and other fields; and the problems which he is considering include means of conserving gas, utilization of gas, repressuring the sands.

Mr. Ross in his work is receiving the cooperation of the department of conservation and of the various oil and gas companies; and when his survey is completed all the information will be available to all companies, making possible a more thorough and general understanding of the existing conditions.

Mr. Ross is the first representative of the Bureau of Mines to maintain headquarters in Louisiana, and it was largely through the influence of the state department of conservation that his services were obtained.

Before coming here, Mr. Ross spent four years in the Salt Creek, Wyoming, field, as engineer in charge of the United States Geological Survey station, supervising drilling and production operations on government lands.

J. S. ROSS

Exposition Scientific Division Outlined by Committee

Showing is to be made of all scientific methods used in discovery and recovery of oil; bureaus and societies have exhibits

TULSA.—What the scientific and technical division of the International Petroleum Exposition will show, October 20-29, was brought into clearer outline Tuesday when the committee in charge met.

The committee voted to have exhibits brought from the geological surveys of Nebraska, Kansas, Arkansas, Texas and California. This decision alone means a great saving of time and effort to those who are students in the petroleum industry and should prove highly instructive.

Present at the meeting were: R. S. McFarland, president of the American Association of Petroleum Geologists, president of the Twin States Oil Company, who acted as chairman; J. H. Gardner, president of the Gardner Petroleum Corporation and past president of the American Association of Petroleum Geologists; Luther White, of the J. A. Hull Oil Corporation; Frank C. Greene, geologist for the Roxana Refining Company; C. L. Cooper, assistant director of the Oklahoma Geological Survey; Earl A. Trager, geologist for the Skelly Oil Company; L. L. Foley, president of the Tulsa Geological Society and geologist for the Mid-Kansas Oil and Gas Company, and J. Burr Gibbons, general manager of the petroleum exposition.

Earl A. Trager was appointed to make arrangements for the geophysical exhibits.

Among the most interesting of exhibits to be shown in connection with the scientific and technical phases of the industry are:

The magnetometer for defining regional structure on the basis of the differing intensity of the vertical field of the earth's magnetism. The location of structures by the seismographic method, the reflection of vibration showing depth after the shooting of a charge of dynamite.

The torsion balance which gives the location of structures through the variation in the mass attraction of the earth. The pendulum, which runs in a vacuum, indicates the density of the earth's crust by its variation in speed.

Microscopes will be available to permit visitors to examine the minute fossils which indicate differences in shale bed formations in Oklahoma and Texas. A well known professor in paleontology will be asked to prepare an exhibit of interesting fossiliferous specimens.

R. S. McFarland suggested an exhibit on crooked holes. This suggestion was readily accepted by the committee because recent investigations and studies have brought out the great import of this eccentricity in drilling.

It is now well known that holes do not descend into the earth in a straight line, but the exhibits which show these holes winding around in their course, sometimes turning to proceed back toward the surface, and others showing that wells, as much as 600 feet apart, have become connected under the ground, should be worth the study of those who will visit the display.

An aerial photography display will show the use of this art in mapping structures or geological features.

Unanimous decision was reached at this meeting to eliminate all features which are irrelevant to the scientific and technical aspects of the industry. Apparatus and devices which have not true bearing upon these aspects will be placed in another department.

Listed as exhibitors in scientific implements and technical devices are: The United States Bureau of Mines, the United States Geological Survey, the Oklahoma Geological Survey, the American Institute of Mining and Metallurgical Engineers, the American Association of Petroleum Geologists, the American Petroleum Institute, the National Gasoline Supplymen's Association, the petroleum technology and geology departments of Tulsa University and the Tulsa Library.

Numerous letters are being received at the offices of the exposition every day from foreign nations, General Manager Gibbons said at the meeting. These letters, he said, point to an international representation which will omit no country which has interest in the petroleum industry.

The exposition is decidedly a recognized international affair, Manager Gibbonse emphasized when he reported that all arrangements for observing the friendly relations which exist between our country and the nations of the world.

The need for an international exposition of the petroleum industry is clearly manifested in the growth of Tulsa's greatest project. In 1923 the first exposition was held in the streets of Tulsa.

Today $120,000 have been spent upon improving the 20-acre grounds of the exposition. Inter-city switching of freight among the railroads direct to the grounds has been arranged through the M. K. & T. and O. U. R. lines. The American Railway Express Company will give free city delivery service to the grounds, and postal, telephone and telegraphic facilities are available at the exposition.

There will be at least 12 derricks, five drilling wells and every conceivable type of pumping units, rotary and cable drilling tools, mammoth engine displays, power plants, tractors, ditchers, scientific instruments and technical devices at the grounds.

One exhibitor will have a complete gasoline plant on display. The gas lift and bubble tower, the apparatus for removing mercaptans from corrosive gases, and scores of other machines and processes will be represented.

GRAND OLD MEN OF THE OIL INDUSTRY

I desire to nominate for membership in the "Old Timers" organization of the International Petroleum Exposition:—

Mr. .....

Address .....

If possible give the following information:

Date of birth .....

Place of birth .....

Date started work in oil industry.....

Place started to work .....

Branch of industry .....

Kind if job .....

State whether pumper, driller, producer, etc. Is he still engaged in oil industry? .....

Signed .....

Address .....

NOTE: Mail at once to B. E. Horrigan, Chairman of Old Timers' Committee, International Petroleum Exposition, 207 Bliss Bldg., Tulsa, Oklahoma.

"GRAND OLD MAN'S CONTEST"

All Tulsans nominated for membership will act as official host to all old timers at the exposition. During the exposition the "Grand Old Man" of the entire oil industry of the world will be selected.

Duty of Formation Gas

By HARRY PENNINGTON
Mechanical Engineer, San Antonio, Texas

THERE is no general basis in use in the field at present by which comparison may be accurately made in various fields and wells of work done by free formation gas, soluble gas, liquefied gas, and gas or air compressed and delivered into the well for pumping oil to the surface.

One purpose of this paper is to set up a standard of comparison that may be used for reducing all performances to a common basis of duty performed, and a computed table is given below. This table is based upon 36 Baume gravity oil and, for other weights of oil, other tables must be used, or a single table with water as a basis may be computed, with deduction for weight according to the specific gravity or weight of oil pumped.

Computation of this table is done by finding the foot pounds of work done by lifting oil from the working level in the well to the surface and ascertaining the amount of gas coming out as such with the oil—a matter of arithmetic only, and not of a difficult formula.

It will be noted that this method includes such losses as entrance and acceleration loss of head, frictional losses of oil-gas mixture coming up the flow line or casing, exit velocity head loss and loss due to back pressure, all of which may be computed separately, but all of which are included in the method of tabulating as given herein.

For example, using the duty table:

Cubic feet of gas per barrel of oil 500
Lift in feet 1,500
Duty (foot pounds) 882,000

Again:

Cubic feet of gas per barrel of oil 3,000
Lift in feet 4,500
Duty (foot pounds) 884,000

Knowing the power required to compress gas, and the losses of compression and transmission, we know the amount of power stored in each thousand feet of gas, from which the efficiency of any installation may be computed, when desired, but, the efficiency of an air or gas lift, using compressed air or gas, is computed with the horsepower developed in the cylinders of compressors as work delivered, while, gas in the formation has no such losses as mechanical losses in compressor, or heat of compression losses in compressors.

Efficiency, to be quoted exactly, must take all losses into consideration, which are rather difficult to determine exactly in compressors, and in lines, and there is no known method of measuring such losses down in a well as entrance loss, acceleration loss, friction loss up the flow line, and velocity loss at discharge.

In addition, back pressure on the discharge of wells sets up another loss, difficult to measure exactly.

The term "duty" consolidates the work done net, consisting of the storing of potential energy into the oil lifted to the surface; the term duty consolidates all the losses of compression and transmission into a single duty figure, which makes possible a direct comparison of the duty that is obtained from gas or air coming out of a well with oil, simply by measuring the total quantity of both, and making a comparison.

Duty tables may be made up into curves by those who wish, of course, but for exactness, the writer has not included curves here.

The term duty, when applied to pumping liquids by whatever method, is not new, but has been applied to steam driven pumping engines and air lift installations for years, on the basis of duty per thousand pounds of steam, or duty per one million British thermal units. This customary basis does not, however, include the boiler efficiency or furnace efficiency, and a later, more exact method of stating the efficiency of an installation doing work, is the "wire to water" term, which sets out the work done by the complete installation on the basis of work done per unit of water introduced into the boilers.

Below is given an average duty table of various kinds of pumping installations, taken from tests made by the writer:

Duty per one thousand pounds steam:

High Duty

Triple expansion flywheel pumping engines 235,000,000 down to 140,000,000 foot pounds.

Compound flywheel pumping engines 150,000,000 down to 100,000,000 foot pounds.

Medium Duty

Direct acting triple expansion pumps 100,000,000 down to 35,000,000 foot pounds.

Turbine driven centrifugals, condensing 110,000,000 down to 60,000,000 foot pounds.

Compound direct acting pumps 75,000,000 down to 35,000,000 foot pounds.

Low Duty

Simple direct acting pumps 30,000,000 down to 4,000,000 foot pounds.

Air lift pumps, steam driven compressors 30,000,000 down to 20,000 foot pounds.

In this, as shown, the expansive use of steam increases its duty materially and it will be noted that direct acting pumps drop down materially in duty, compared with flywheel pumps in which latter the expansive effect of steam is obtained, while in direct acting pumps, either compounded or simple, there is no expansive effort, but steam acts on the piston during the whole stroke at full inlet pressure. While the inlet may be throttled, still what-

TABLE OF DUTY OF GAS OR AIR

Based Uuon 26 Beaume Gravity Oil, Specific Gravity 0.834 Horsepower Per Barrel Per 100 Feet Lifted, 0.893 Equals 29,469 Foot Pounds.

Lift in Feet	Cubic Feet of Gas or Air per Barrel of Oil — Foot Pounds Duty									
	500	1000	1500	2000	2500	3000	3500	4000	4500	5000
1000	589,000	295,000	163,000	147,000	117,000	98,000	84,000	73,000	65,000	59,000
1500	882,000	441,000	294,000	220,000	176,000	147,000	126,000	110,000	98,000	88,000
2000	1,186,000	593,000	395,000	296,000	237,000	198,000	169,000	148,000	132,000	119,000
2500	1,474,000	737,000	491,000	363,000	295,000	246,000	211,000	181,000	164,000	147,000
3000	1,782,000	891,000	594,000	445,000	356,000	297,000	255,000	222,000	198,000	178,000
3500	2,062,000	1,031,000	621,000	515,000	412,000	343,000	295,000	257,000	229,000	206,000
4000	2,360,000	1,180,000	783,000	590,000	472,000	393,000	337,000	295,000	262,000	236,000
4500	2,652,000	1,326,000	884,000	663,000	531,000	442,000	379,000	331,000	295,000	265,000
5000	2,946,000	1,473,000	915,000	736,000	589,000	491,000	421,000	368,000	329,000	295,000

The A.P.I. Standardization Division Endorses the I.P.E.

J. EDGAR PEW, *Chairman*
Standardization Division, American Petroleum Institute; Vice-President Sun Oil Company

"Recognizing the great value of the International Petroleum Exposition as a clearing house of ideas and a great meeting place for oil men, and appreciating its great importance to the advancement of the work of the Standardization Division of the American Petroleum Institute as a display room, workshop and laboratory for scientific, technical and educational advancement and development,

"We, the members of the Standardization Division, in regular meeting assembled, do hereby heartily endorse the International Petroleum Exposition as a permanently established institution of world-wide influence, and pledge our moral support to its further advancement."

—Resolution adopted at Colorado Springs, Colo.

The above resolution and the exhibit to be made by this Division indicate the value of the 1928 Exposition to the industry. Other scientific and technical exhibits will include those of the U. S. Bureau of Mines, U. S. Geological Survey, Oklahoma State Geological Society, and A. I. M. M. E. Petroleum Division. *Plan now* to attend the 1928 Exposition for "a post-graduate course in the oil business." Producing, Refining, Transporting, Marketing and Scientific and Technical departments. Reduced fares on all railroads in U. S. and Canada.

For information, address J. Burr Gibbons, Gen. Mgr., Bliss Bldg., Tulsa, Okla., U. S. A.

INTERNATIONAL PETROLEUM EXPOSITION

Tulsa, Okla., U. S. A.—Oct. 20-29-1928

The WORLD'S FAIR of the OIL and GAS INDUSTRY

ever inlet pressure is used, it is constant during the full stroke.

Natural gas has the same expansive force as steam for both, strictly speaking, are gases, when not near their liquefying pressures, but natural gas liquefying temperatures are pressures varying widely from those of steam. Both cool during expansion; when doing work. cooling is greater than when not doing work, by the amount of work done.

And, whether using gas in a cylinder for doing work, or down in a well for doing the work of lifting oil, the same advantages as to expansion appear when expansion is used. Used expansively, the duty of gas increases materially.

Work Stored in Gas

Then, when using the term duty, we can see that each cubic foot of gas under pressure has stored in it a definite amount of work which may be obtained from it to a greater or lesser degree and used in lifting oil to the surface, at a rate of gas per barrel controlled by the technique employed.

But, insofar as lifting oil to the surface, the writer considers this part of work done by formation gas as a minor part of the most valuable duty formation gas can be put to. As outlined in *The Oil Weekly* under date of December 12 and 19, 1924, the prime duty of formation gas, at which it is most valuable, is the work of driving oil through the formation to the well bore, where we can get hold of it and lift it to the surface by auxiliary power means, rather than by utilizing formation gas for power.

Driven to the well bore, oil may be lifted to the surface by surface power, while, in the formation, back away from the well, the only known methods of furnishing energy for moving oil through the formation are water driving and repressuring. During flush production, with higher pressures, naturally, on the sand, repressuring requires heavy expensive equipment for high pressure work, together with great quantities of power, and while this method may and should be adopted in the future, present prices of oil are such that little profit would result with using the method where higher pressures are found, although in initially low pressured fields, the method offers much toward high ultimate recovery, together with high daily recovery.

Since there is already stored in formation gas, enormous amounts of power, this paper is directed at the most efficient use of such power, together with the economic aspects of such use.

It may be said that the amount of formation gas required to lift oil to the surface should be only that quantity which, in addition to compressed gas, will lift the oil; that, as the amount of introduced gas increases, the requirement of formation gas diminishes, which requirement is modified by the amount of liquefied gas coming into the well unavoidably under present practice.

And it would perhaps be in order here to note the difference between gases produced with oil, particularly light oil.

These gases range from methane, the lightest, on down through the successively heavier fractions, the difference between them being in their initial boiling points at atmospheric pressure. It is true that these fractions are never isolated in natural gasoline manufacture, but selective condensation, or liquefaction prevails nevertheless and the whole product is a mixture of the various fractions.

Heavy Traction Test

In liquefying, the heavier fractions are converted from gas to liquid first, but, before liquefied, if a lower pressure and temperature prevails than the liquefying pressure and temperature of lighter fractions the lighter gases enter into solution, or are dissolved in liquid when present with liquid of a lower boiling point. Then, for instance, if butane, C_4H_{10}, is liquefied, methane, CH_4, will dissolve in butane in direct proportion to pressure, although methane is not liquefied unless the high pressure and low temperature required is reached. This, I think, defines the difference between solubility and liquefiability; this difference should be kept constantly in mind when designing flow lines and flowing oil from wells, either with formation gas or compressed gas, for much is explained when the physical properties of formation gases are kept in view.

Reverting to previous papers of the writer that have appeared in *The Oil Weekly*, the lowering of oil bearing and gas bearing formation pressures is due to withdrawals of gas, and the lowering so accomplished, is accompanied by vaporization at definite pressures and temperatures of gas found in solution, together with expansion of such gas, along with gas found as gas, out of solution. These features of production were outlined in *The Oil Weekly* August 11 and 18, 1923, where the writer set out the effect of refrigeration produced by evolution and expansion of gas in a formation, in that certain changes are effected in oil when it cools, particularly referring to the paraffin oils. The least cooling congeals paraffin in oil, and paraffin so congealed can be liquefied only at a higher temperature than that originally found.

The requirement of higher temperature than original for melting congealed paraffin, may be like other mixtures of solids in solution with one another, and paraffin is such solid, consisting of various paraffin fractions, in that some of such mixtures have critical temperatures, or fusing temperatures—an upper critical temperature at which the mixture fuses, and a lower critical temperature at which such mixtures congeal or solidify. Hence, for the purpose of this paper, the temperature at which paraffin congeals, when lowering temperature, is termed the lower critical temperature, while, when being heated, the temperature of fusing is termed the upper critical temperature.

In addition to the heat required for elevating temperature of oil and paraffin, to fuse or melt paraffin requires an additional amount of heat—the heat of fusion—which adds to the quantity of heat necessary for fusion, but which does not set up a rise in temperature—heat being absorbed to cause fusion

Since the specific heat of oil, or the amount of heat necessary to elevate one pound of oil one degree Fahrenheit in temperature, is on an average, one-half that of water, depending upon the particular oil, one-half the amount of heat is necessary to raise oil in temperature as much as an equal amount of water through the same rise. Then, to reduce the temperature of oil and its containing formation, requires considerably less heat to be taken away from it per degree of reduction, than if water filled the pore spaces of the formation.

Liquefied Gas

Liquefied gas—vapor—found liquefied in oil, when released and vaporized out of solution, requires sufficient heat to furnish the quantity for latent heat of vaporization. Latent heat is the heat that simply disappears in vapor generated from a liquid, without raising temperature of the vapor, hence, the source of such heat is usually the liquid from which vapors are evolved, so that the liquid is thereby cooled. The heat leaving with vapor can only be recovered by condensing such vapor.

The source of such heat disappearing as latent heat, can be only from the oil and the formation containing the oil, hence where the percentage of liquefied gas, which is vaporized out of solution, is large, the surrounding oil and formation, in contact at the time of vaporization, or later, is lowered in temperature directly with the amount of heat taken up by vapor as latent heat.

Light oil fields, such as those of West Texas, Seminole and many fields of California, contain when discovered, large amounts of liquified gas, existing as oil in the heavier fractions of the oil, which amounts are vaporized out of solution as to the higher fractions, as soon as pressure is released by production, whether such release of pressure is in the formation, in the tubing, or in the flow tank after oil has reached the same.

In addition to the liquefied portion, there is also the dissolved gas, the amount depending upon the pressure found. The amount of gas that may be held in solution, is according to Henry's law of gases, directly proportional to pressure, hence, deeper wells with higher pressures are almost always found with a higher soluble gas content.

Those fractions of gas that are not liquefiable at the pressure and temperature existing in a formation, whether these fractions be high or low, are dissolved in part, if there is an excess

FRANKLIN VALVELESS OIL AND GAS ENGINES

"Your letter of September 15th at hand and in reply wish to state that the Franklin Oil Engine has proved to be very economical, and our drilling superintendent is certainly pleased with it. It has not only saved us money on water and oil, but uses so much less water that in case we are drilling in a locality where there is a water shortage it saves shutting down the well.

"We have prepared one or two questions below, which will be answered by our superintendent and this letter mailed to you.

Yours very truly,

Shawver and Sutter
By: Bell"

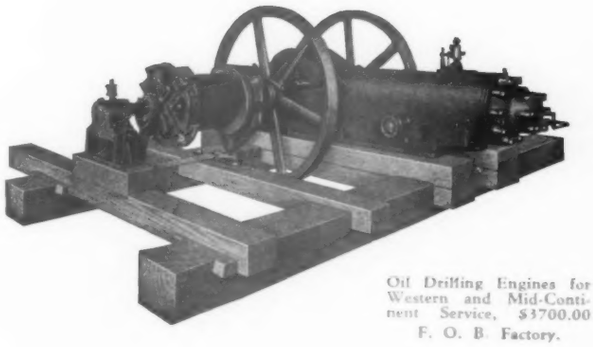
"We are drilling a deep test near Arkansas City, Kansas, with a Franklin Oil Engine. Some time ago we drilled a well in this locality with steam and the water was so bad and we were shut down nearly one-half of the time repairing the boiler, which is very expensive. This trouble is all overcome with the Oil Engine.

"There is no question in my mind but what we can make hole as fast as we can with steam.

"We just completed a well to the Wilcox Sand, drilling to a depth of 3100 feet in forty-five days, saving on an average of $20.00 per day on water and fuel oil, over what we could have done it with steam.

Yours very truly,

(Signed) D. M. Shawver
Supt. for Shawver and Sutter"



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The crew that works with a Franklin Valveless Oil Engine can go after records and bonus without being handicapped by a power plant that has to take "time out" for adjustment and repair.

These letters, like scores of others from men in the field, all tell the same story —cheaper, faster, better than steam. We couldn't say more if we wrote a **book** about the Franklin Valveless.

Write or call the nearest distributor and ask him where you can get some first-hand dope on a Franklin powered rig.

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quantity present over that which the pressure will dissolve into the oil, or, if there is a lower amount of such gas present than pressure will dissolve into the oil, then there is no undissolved gas—all of it is in solution.

High Pressures

It is these fractions that set up the higher gas pressures, for these are liquefied only at higher pressure than the lower fractions. For all purposes, in practice, the temperature of formations varies but little, compared to the variation in liquefaction temperature of the fractions of oil. Hence, pressure is the most potent means of setting up conditions found in any field. Pressure, when high, may dissolve a portion of methane in the oil, leaving a surplus above saturation, which surplus is free gas; when pressure is still higher, all the methane may be dissolved; but at such pressures, we never find methane liquefied, for as noted before, methane cannot be liquefied by pressure alone except at very low temperature, and we have no fields as yet that show such required low temperature.

Free Gas First Work Source

During production then, free gas is the first work source, when work is secured from it by pressure and buoyancy as in flowing wells. Then, with lowering pressure, dissolved gases boil out, and add their duty. At the same time, when the boiling point of the lower gas fractions is reached as to pressure, these evolve, and the gas mixture is then composed of gas not liquefied when found, but gases dissolved, in addition to the gases that were originally liquefied.

All these add to the volume of gas when pressure is lowered. Naturally then, while the formation is under the pressure necessary to hold dissolved gas and liquefied gas as such, it is not until lowering pressure has released these that they become available for work duty.

Since the different fractions possess different pressure boiling points, it follows that in the range of pressure reduction, at certain pressures, certain fractions will gasify. When oil starts flowing to a well and into it and up the flow line or casing, there is a reduction in pressure from that of the formation down to atmosphere, and at certain pressures, certain gas fractions emerge from the oil, or vaporize, which requires heat, and after vaporization, expansion starts, requiring further quantities of heat. It may be possible to locate the points of greatest vaporization and expansion by paraffin deposits—where they begin, and where they increase more than elsewhere.

At first, paraffin collects in the outer extremities of lines, and as formation pressure lowers, the collection gradually proceeds inward, on down the well, so that during initial stages, paraffin gives little trouble, but in after production, paraffin may give much trouble.

Expansion after vaporization can take as much heat as vaporization, if the pressure range of expansion is great enough. Expansion is the reverse of compression; in compressing gas, we know that the heat of compression is high and designers of compressor cylinders jacket them with water to keep them cool, pass the gases through coolers between the stages of compression, and also after final compression, for if this were not done, red heats would be generated in the compression cylinders and in the piping.

Heat Put Back

It is the replacement of this heat, taken from gas when compressed, that must be put back into the gas when the gas is expanded, else the gas retains its low temperature. Low temperature is set up in the gas, and the taking of heat from surrounding oil raises gas temperature as well as lowers oil temperature.

These observations are wound about with a good deal of complexity; in fact, due to the complex nature of oil fractions, the writer believes that there is no series of substances with as many characteristics so closely knit together, and which are so difficult to segregate.

That gas emission from a producing formation does lower formation temperature, may be difinitely proven by actual observation for, in Wichita County, the Northwest Extension Field reduced in temperature 22 degrees F. in three and one-half years, and 33 degrees in eight years, while the initial boiling point of the oil has increased from 97 to 152 degrees Fahrenheit, and the gravity of the oil decreased six to seven Beaume, showing that lighter fractions have been released from solution, cooling the formation and the oil therein by vaporizing and subsequent expansion. This field has been under high vacuum for seven years, which further augments the vaporization of light fractions and expansion, which effect was set out in *The Oil Weekly* July 5, 1924.

Also, the same field showed definitely at one stage of production, that free gas was just about exhausted, for at that time, production slumped materially, or as expressed in the field, "the head was off." And at that time, production began to depend upon soluble gas.

The writer wishes here to exphasize the difference between gas found initially in oil formations, and gas introduced into the formation by repressuring.

It is a peculiar fact that congealed paraffin is not found initially in an oil sand with the oil, but is in solution as a liquid, with the oil, forming a part of the liquid volume. That is, so far as we know, by tests, no solidified paraffin has been generally found as such in the oil from a discovery well, although in such oil, paraffin is readily congealed by lowering the temperature.

Then, originally, as found, paraffin is not present as such, in the solid or plastic condition, but is formed afterward by lowering temperatures. And, once formed, paraffin is difficult to again liquefy as previously outlined, requiring higher temperature than that which solidified it.

Since formation temperatures have never been raised artificially, on a scale comparatively as large as the field, but have steadily lowered as the field ages, it follows that paraffin, once congealed, continually exists as such.

Then, when the formation temperature is lowered, the most potent means of limiting ultimate production has been accomplished in that paraffin forms and accumulates, and capillarity and viscosity increases, as well as adhesion, due to the lower temperature.

It is to avoid these that the writer has prepared this article.

Source of Formation Heat

Nature has compressed formation gas to the pressure at which we find it, and the heat of compression may still be in the oil and the formation where found, if compressed at that point, or, if the oil passed through water before arriving at the structural trap holding it, and was compressed before arriving, such heat was absorbed in passing and is left behind.

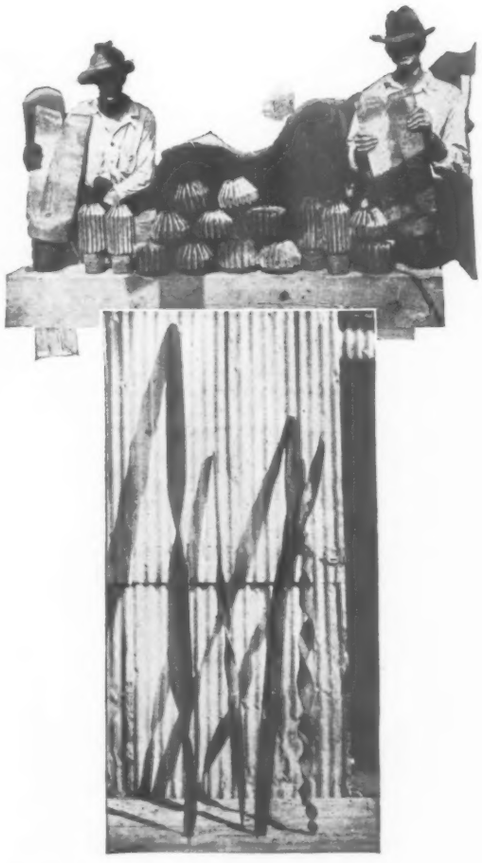
There seems to be no question however, but that the temperature found in some fields, higher than surrounding formations, has been derived from the original compression by natural forces which accumulated the oil and gas of which water is the most potent means, together with the buoyancy of gas, for, when compressed, not only is the heat of compression generated and transferred to the surrounding oil and formation, but latent heat, released from liquefiable fractions, delivered when these fractions condense, is also a means of furnishing heat to the oil and formation.

Heat in the ground, under cover is very thoroughly insulated and is not usually lost, unless circulation dissipates it. Absence of circulation except to and under cover, is the mode of oil accumulation, however, and we know that circulation, except toward and under cover, is nil.

Shales and clays are good insulators as may be proven by other practices under observation by the writer, and while a small amount of heat may be absorbed by a cover formation, still, the enormous amount of heat delivered by great quantities of gas into the containing formation and sourrounding oil, is of such magnitude that it would be inconceivable to say that this heat disappeared, or that heat found present is due to other sources. Hence, the assumption that some of the temperatures found initially in formations are due to original natural compression and liquefaction of gases found in the formation.

By way of comparison, the heat of compression when raising air to only

The driller goes fishing . . .



Upper view shows a group of Haynes Stellite junk milling tools. Below, long sections of pipe fished from hole after Haynes Stellite milling tools had milled away the rest of the pipe.

FISHING to most of us implies pleasant hours—far too short. But to the oil man fishing means long and arduous labor.

In the Gulf Coast Oil Fields, fishing has been made much less arduous by the use of junk milling tools Stellited with Haynes Stellite. Because it outlasts any other metal, Haynes Stellite has been responsible for the saving of many a hole.

This simple application of Haynes Stellite has lessened one of the driller's chief troubles. You men who stand at the headache post should investigate Haynes Stellite junk milling tools when you next go fishing.

Ask our nearest district sales office about it.

HAYNES STELLITE COMPANY

Unit of Union Carbide UCC *and Carbon Corporation*

DISTRICT SALES OFFICES

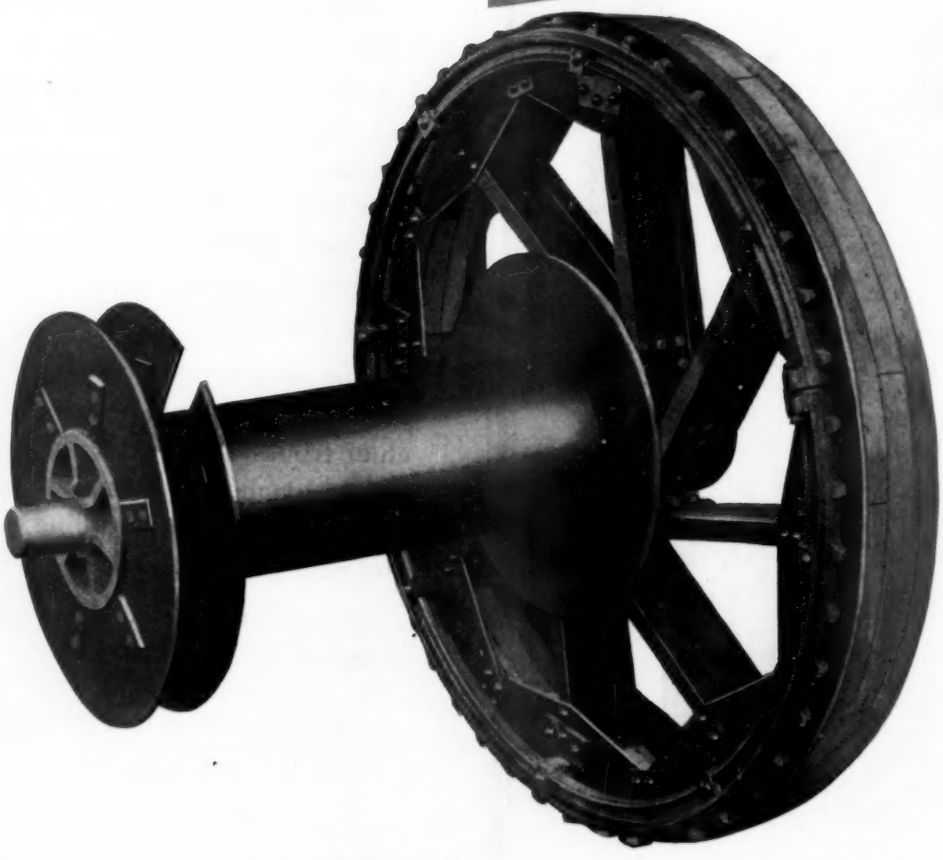
CHICAGO—1949 Peoples Gas Bldg.
CLEVELAND—628 Keith Building
DETROIT—4-240 Gen'l Motors Bldg.
HOUSTON—6119 Harrisburg Blvd.
LOS ANGELES—1310 Santee Street
NEW YORK CITY—30 East 42d St.
SAN FRANCISCO—114 Sansome St.
TULSA—Exchange Nat. Bank Bldg.

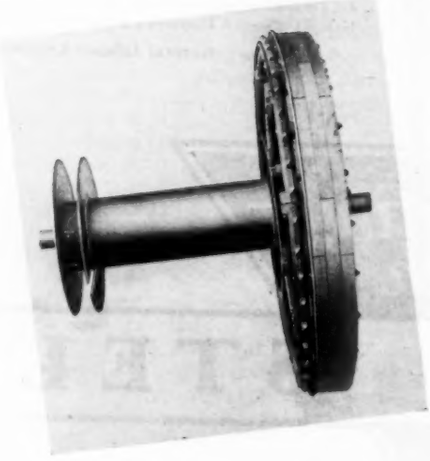
General Offices—Kokomo, Indiana

Stelliting with

HAYNES STELLITE

Use the Moore





Standard Specifications

Wheel diameter, 7′ 6″; shoulder to shoulder length, 6′ 3″; shafts of 16″ or 18″ diameter with ½″ wall; trunnions, 5″ diameter x 6″; 9″ or 12″ brake face. The standard wheel includes three spooling flanges. Heavier shafts on request.

Say you saw it in The OIL WEEKLY

CALF WHEEL

Maximum Power
Long Life

THE strength of the Moore Steel Calf Wheel is due to several noteworthy features. It has an extra heavy steel pipe shaft which is heated and shrunk on the spoke type gudgeons and riveted in place. For maximum power, the channel steel spokes are bolted tangent to the shaft by sturdy wing plates. The brake wheel rim is of rolled steel plate segments with wood-en cants. The sprocket rim is bolted to the inside rim which extends ½" above the brake cants to prevent interference between the brake band and sprocket chain.

The Moore Steel Calf Wheel conforms in all respects to A. P. I. dimensional standards.

LEE C. MOORE & CO., *Inc.* PITTSBURGH · TULSA

Established 1907
NEW YORK OFFICES: OILFIELD EQUIPMENT COMPANY
30 CHURCH ST., NEW YORK, N. Y.
Stocks in All Principal Fields

DALLAS, TEXAS
HOUSTON, TEXAS
WICHITA, KANSAS

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CASPER, WYO.
SHREVEPORT, LA.

Moore

STEEL DERRICKS
ALL STEEL RIG EQUIPMENT

205 pounds shows a final temperature of 681 Fahrenheit.

The amount of work necessary to compress gas is set out below; based upon Westcott's formula:

$$HP_r = 102.2 \frac{1.08 \text{ plus } \frac{1}{2R}}{0.96 - 0.02R} \text{ Log } R$$

Per 1,000,000 cubic feet, two stage

Number of Compressions	Horsepower Heat Equivalent
10	142
15	150
20	168
25	182
30	197

Thus, at 441 pounds, 197 horsepower of work has been delivered to one million feet of the gas, and some of this work has been lost by the gas delivering heat into the jacket water—the amount lost being determined by the quantity and delivery temperature.

The amount of work that has been stored in such gas is that shown above, less the amount lost as heat by cooling after compression, whatever the method of compression, and there must be a loss factor in this, before computing the duty that may be obtained from such gas.

All this is subject to computation, but these are omitted for brevity, and we take the gas as found, and estimate from its nature, its pressure and its volume at such pressure, the work that is stored in it, most of which should be secured from it in lifting oil to the surface.

It is quite beyond our knowledge at this time to compute the exact work required for driving oil and gas through a formation to the well bore, and at the present stage of this class of endeavor, we are still in the well bore, in our calculations, having no means as yet of accurately going further than that into the formation.

We know though, that when gas pressure subsides, the flush production ceases, although only a small part of the oil content has been withdrawn. And the idea in this article is to again emphasize the value of free formation gas, soluble gas and gas evolved from light oil fractions found in the oil as oil, in securing higher recoveries by prolonging the flush production period, and by preventing lower temperature in the formation, which sets up slower flows of oil to the well.

Upon release of formation gas as shown, the heat required for vaporization and expansion in the formation, is a definite quantity, and is taken from the formation and its oil into othe gas, lowering temperature of formation and oil, and at the same time raising temperature of the cooled gas, until there is a balance without further heat flow from one to the other.

Setting up a cooling effect on oil and the formation, temperature of the oil is lowered, which congeals paraffin, increases the viscosity of oil, increases capillarity and adhesion, all of which set up additional resistance to flow toward the well through the sand.

The writer is quite certain that capillarity, which is increased by lowering temperature, is one great cause of retention of oil in a sand after pressure has subsided, and that adhesion, also increased by lowering temperature, is the next factor of importance in this respect.

With all this in view, we can see that when the pressure of original gas is retained on the sand to the greatest possible extent, which means of course, that gas is conserved, the greatest ultimate recovery results, for the losses inevitably set up by additional resistance to flow, coupled with loss of driving force of gas and pressure, are stayed.

Conservation of Gas

It further follows that to reduce the amount of gas produced with oil, also reduces the ultimate production losses, or, in other words, increases ultimate production. After flow lines have been designed correctly, and installed, the gas produced with oil unavoidably, may be supplemented with gas, or air from compressors, to furnish sufficient power for lifting to the surface; any means of reducing the production of formation gas, and using instead, power at the surface, assuredly increases recovery, as shown experimentally on the surface, and as deduced from close contact with the field over a period exceeding 20 years.

It may be said that the amount of formation gas decreases, as introduced gas increases, provided of course, that conditions, and the design of installation holds this true. But production of formation gas cannot be wholly restrained; such gas production can be materially reduced, however, by using compressed gas, for lifting the oil, eliminating the use of formation gas as far as possible, for lifting purposes.

The use of compressed gas, or air, in a well when the well itself produces sufficient gas at a pressure that will lift the oil to the surface, it might be argued, is a waste of power of the compressors. As a matter of fact, such compressor power is not wasted, but is used for the time being, instead of the power of formation gas, and as time passes, the total amount of power required to lift oil will assuredly be found less per barrel, than when formation gas is depended on until the well flows no more, when compressors then are used.

This further emphasizes the value of technically and practically correct design of well lines, depths of the same, pressure controls, all of which are extremely important, in that when utilized to the full, the gain may be great. When the efficiency of an air lift is, say 15 per cent. and it is increased to 20 per cent., by correcting certain phases of design, the gain is not five per cent., but is 33 1-3 per cent. of the total, lowering capital investment in compression 33 1-3 per cent.

Power in Formation Gas

When formation gas is released, not only the gas is gone, but its power is gone, too. Its contained power, due to pressure, might be more valuable than the gas itself.

Assume that a well produced 500,000 barrels of flush oil with an average oil-gas ratio of 1000-1, during flush production. Then, the gas produced with the oil is 500,000,000 cubic feet, representing at 30 compressions, 98,500 horsepower, less compression losses, or approximately 80,000 horsepower. Lifting 500,000 barrels 1500 feet requires energy, without lifting losses, of 6500 horsepower, so that there is ample energy, in even low pressure gas, to lift oil to the surface—the whole oil content—even with low efficiencies.

But, to do this work, 80,000 available horsepower was used up, out of formation gas, to deliver 6500 horsepower of work.

If a 160 horsepower gas engine is used over a period of 150 days, 24 hours daily, 576,000 horsepower hours is generated, and with 20 per cent. loss, 440,800 horsepower hours may be delivered to the well, in addition to the power secured from formation gas, which means that insofar as power is concerned, engines on the surface furnish far more than can be obtained from formation gas itself, and that when limiting formation gas production, power is, within itself, not of such moment as to increase barrel lifting costs appreciably.

When recycling raw gas, the reduction in volume of gas, due to compression and extraction of natural gasoline, must be added to compressor capacity, or when computing such plants, the net volume of gas going into the well must be the quantity basis and not the compressor delivery.

Where gas is used for flowing wells, with compressors, the compressor capacity insofar as flow requirements is increased by using denuded gas, and since the higher pressures required for flowing wells—300 to 500 pounds—are higher than necessary for natural gasoline plant work — compression system — it follows that to compress the with gasoline extraction between gas to the required pressure in stages, with gasoline extraction between stages, eliminates the compression to high pressure of the fractions that are liquefied, but that cannot be held stable after liquefaction. The net result is that the same compressor power capacity will furnish additional gas to wells, or the compressor capacity will be lowered.

Refrigeration

As to refrigeration with natural gas as a medium, it might be observed here that this gas is somewhat different

A *Permanent* Improvement

ONCE installed, the D+B Simplex Stuffing Box constitutes a permanent improvement on any producing well. It will give satisfactory service—for the longest possible time.

The lubricating bowl on the D+B Simplex Stuffing Box is placed at the top—a feature that assures perfect lubrication and prevents burned packing while the oil is coming to the top, as well as between heads of oil.

Adjustment for varying pressures is simple, quick, and easy—accomplished without the use of a wrench. The two handles are attached so that they cannot work loose or become lost.

Working parts have been reduced to the minimum in the D+B Simplex Stuffing Box; there is nothing to get out of order. It uses any standard packing; it has standard threads, and will fit any size tubing. The D+B Simplex Stuffing Box will save you money in packing and oil; it will do away with stuffing-box worries; it's a *permanent* improvement!

Write for complete descriptive matter, sizes, prices, etc.

D&B DIVISION

Preferred by Steel

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EMSCO DERRICK & EQUIPMENT COMPANY
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U. S. A.
EXPORT OFFICE—150 BROADWAY
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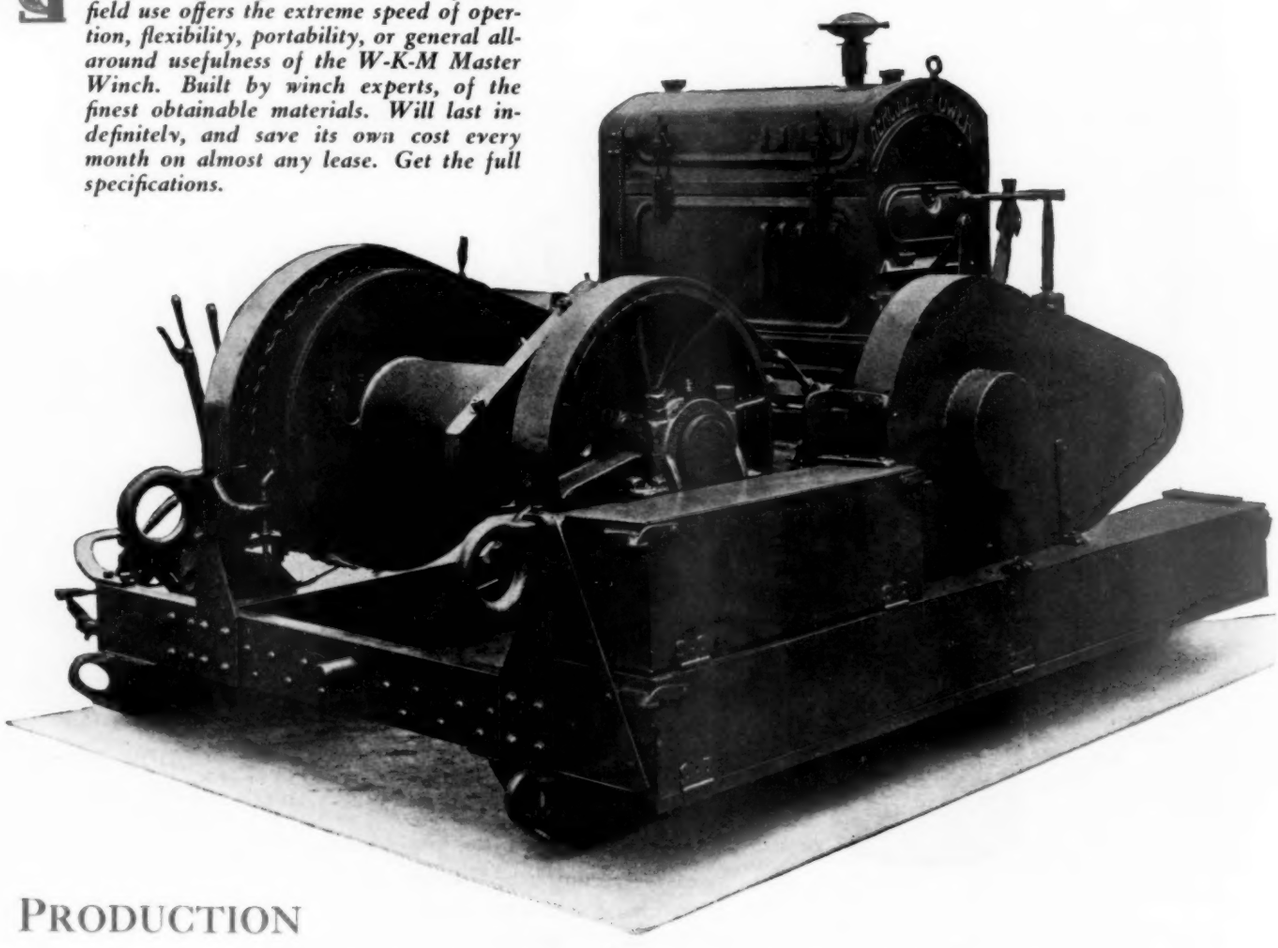
U. S. A.

D+B *Simplex* STUFFING BOX

Say you saw it in The OIL WEEKLY

No other pulling unit ever built for oil field use offers the extreme speed of operation, flexibility, portability, or general all-around usefulness of the W-K-M Master Winch. Built by winch experts, of the finest obtainable materials. Will last indefinitely, and save its own cost every month on almost any lease. Get the full specifications.



PRODUCTION

SUPERINTENDENTS— ENGINEERS—

Here is the final answer to one of your most costly production problems — look it over!

THIS story can't be told in ten words. It's too big.

Production Superintendents and Engineers who read it, however, will learn the final answer to one of their biggest problems. It concerns a machine designed, after five years experience, to master every phase of rod and tubing pulling work, as well as swabbing, bailing and cleaning out work on the average lease, or group of leases in a district.

First, consider the machine itself—the W-K-M Master Winch. It is compact, rugged and extremely powerful. It is entirely self-contained on steel skids, and mounts quickly on any truck platform, from a Ford Model "A," on up. Heavy grip bolts hold it securely in place. It goes anywhere, at top speed of truck carrying it.

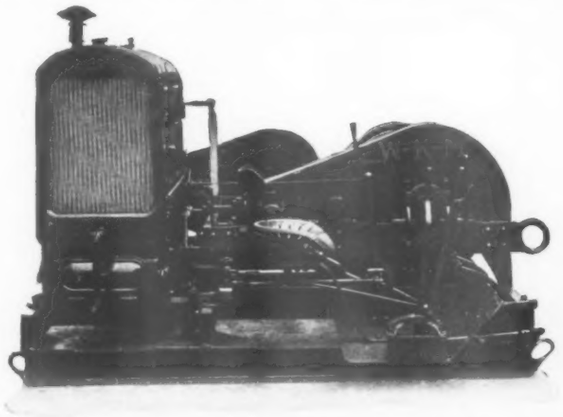
Without removing it from the truck, you can pull your deepest wells with a W-K-M Master Winch *at line speeds faster than ever before possible.* You can finish pulling a well at one location and, in an hour, be pulling a well twenty-five miles away.

On swabbing, bailing or cleaning-out work, a W-K-M Master Winch lowers quickly to the ground, releasing your truck for other work.

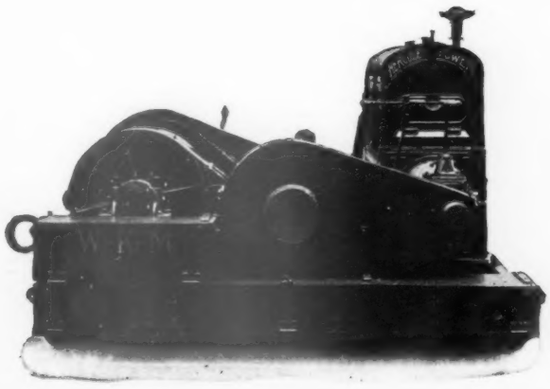
The speed with which a W-K-M Master Winch can be moved from well to well, and the speed with which it pulls rods and tubing, actually enables one pulling crew to do the work of three crews using individual draw-works, bull wheels or tractor equipment. This is fact, not theory. Master Winch No. 1, sold to a large producer having scattered leases in North Texas, cut off two pulling crews out of three.

Cost Trifling Compared to Bull Wheels or Draw-Works

While one W-K-M Master Winch will easily do the work of fifteen to twenty in-



View of W-K-M Master Winch from operator's side. Note convenient location of all controls, which resemble those of an automobile very closely. Being entirely self-contained, unit may be used on ground anywhere.



View of drum side of W-K-M Master Winch. Note substantial steel guards over all chains, also large steel tool boxes which are standard equipment with each machine. Great power and convenience, compactly arranged—that is the Master Winch.

dividual draw-works, or bull-wheel pulling outfits, its initial cost is trifling by comparison.

If you are now equipping your leases with individual draw-works or bull-wheel units, we can definitely show you how to save thousands of dollars by using W-K-M Master Winches. *Even if you have your leases equipped, we can still show you how to save thousands.*

Take it point by point, as follows:

FIRST: ***Initial investment.*** The cost of three draw-works or bull-wheel outfits will pay for a W-K-M Master Winch. The Winch will handle fifteen or twenty wells, against three for the draw-works or bull wheels. *Five times* as much work, for the same initial investment.

SECOND: ***Oil production saved.*** Owing to its extreme power, and fast line speeds, a W-K-M Master Winch will pull a well and get it back on the pump in one-third to one-half less time than a draw-works or bull-wheel unit. Multiply this saving on each well by the number of wells you have, and the figure will astonish you. This is a very definite, tangible saving.

THIRD: ***Concentration of wear and tear.*** By concentrating on one W-K-M Master Winch all the wear and tear connected with pulling work, the operating life of gas engines or electric motors used for driving pumping units can be greatly extended. You can save hundreds of dollars monthly on bull-ropes and belts, engine repairs and motor repairs, and on production lost while bull ropes and belts are being spliced or taken up. Every Superintendent who knows the facts, will admit these things are true. It is impossible to operate fifteen pulling units, even intermittently, at anywhere near the operating cost of one Master Winch.

FOURTH: ***Savings on pumping engines and motors.*** Every experienced Superintendent knows that a heavy, slow-speed gas engine is poorly adapted for pulling work. Constant engagement and disengagement quickly wears out the clutch. Handling is cumbersome, slow and awkward. Racing, to speed up work, burns up valves and other parts, and jars the engines loose on their foundations.

In the case of electric motors, it is well understood that a motor for combination pumping and pulling must be twice as big as for pumping only. This extra investment is eliminated by use of a W-K-M Master Winch. Even the biggest electric motors are subject to severe injury when placed under heavy loads from a standing start. Not equipped with friction clutches, they are frequently burned out when stalled by having current overloads thrust on them.

SUMMED UP: You save substantial sums on initial equipment investment; you save thousands on oil production alone; you save hundreds of dollars annually on maintenance of individual draw-works or bull-wheel outfits; you save heavy wear and tear on pumping engines or motors, and extend their life greatly. Combined, these savings run into astonishing figures in a year.

Before spending thousands of dollars for individual draw-works or bull-wheel equipment or, even if you have this equipment, make a check of what you can actually save each year by using one or more W-K-M Master Winches. The facts will be cheerfully furnished, and no obligation involved. Write, wire, 'phone or mail the attached coupon today!

W-K-M COMPANY, INC.

HOUSTON, TEXAS

Export Office: 74 Trinity Place, New York, N. Y.

W-K-M Master Winch mounted on new Model "A" Ford Truck, ready to go anywhere at 30 to 40 miles per hour. Your deepest wells can be pulled with minimum number of lines, without removing winch from truck.

SEND THIS COUPON FOR FULL DETAILS

W-K-M COMPANY, INC., Houston, Texas

Gentlemen:

( ) Send us descriptive literature.

( ) Arrange demonstration, without obligation to us

Name .....

Address .....

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.....

from the usual gases used in refrigeration work.

The most efficient gases for refrigeration are those in which the heat of vaporization is large. The most widely used gas is ammonia, which has almost six times as much requirement for heat of vaporization as natural gas. Ammonia refrigerates simply by expanding and taking in heat, and due to its nature, it is very efficient per unit quantity, being widely used.

But to secure refrigeration from natural gas, with its lower vaporization heat factor, somewhat different means must be employed for effectiveness, consisting of taking heat out of the gas by making it do work when expanding. The work done represents heat taken from the gas, since work and heat are mutually interchangeable, and when doing work, the gas surrenders heat by expansion and converts it into the equivalent of work.

When lifting oil and gradually expanding in the flow line toward the surface, the work done is that of lifting oil—work is stored in the oil as potential energy, hence, when expanded up a flow line, every factor for cooling the gas, in contact with oil, is present for most efficient cooling by doing work by expansion, in addition to the cooling previously done by the soluble fractions when vaporizing out of solution.

Deductions Necessary

Owing to the present state of knowledge of conditions at the bottom of a well during flush production—which none of us have been able to see, of course—the writer uses deductive reasoning for outlining portions of this paper. On this line, let us go further.

It can be readily conceived that the vapors liquefied in oil in an oil sand under pressure, are oil itself, but that such fractions as are soluble in oil, but not liquefiable at the pressure and temperature prevailing, are in solution, with the oil holding as much of these latter fractions as temperature and pressure permit, remembering Henry's Law of Gases, that liquids hold gases in solution directly according to pressure.

Then, at a difinite pressure on the sand, a definite amount of the gas is in solution; if the pressure is such, and temperature, that all fractions up to methane are liquefied, then a portion of the methane content is in solution, depending upon pressure and temperature, while—if the oil is saturated with methane at such temperature and pressure—there is additional methane existing as a free gas, and not in solution. But, if the quantity of methane present is less than the amount that the oil will take up under prevailing temperature and pressure, then all methane enters into solution, and there is none left as free gas in the sand.

Due to its higher liquefaction point, methane cannot be considered as liquefied unless pressure and temperature in the well are such as will convert it into liquid. The critical temperature for methane is —95.5 degrees Centigrade, and 50 atmospheres of pressure or 735 pounds; above —95.5 c., methane cannot be liquefied by pressure alone, so that what methane there is in oil is dissolved, and not liquefied.

It follows that the fractions liquefiable at the pressure and temperature in the formations, are liquid oil, and not dissolved vapors, while the fractions not liquefiable at the prevailing temperature and pressure, are dissolved, if pressure is high enough and temperature low enough, while the fractions not in solution are still existing as gas, and which latter gas fractions naturally rise to the roof of the containing formation. When drilled into, then, a formation may make free gas, without oil, until oil can come into the well bore, when the well makes oil. If the sand has been penetrated just to the gas, only gas comes in, while if the sand has been drilled through the gas, and down into the oil, both oil and gas come in—the well bore being open to both.

Variations in Oils

It is well known that oils vary in percentage as to their fractions; there may be large proportions of one fraction, and less of others, as we know in gasoline plant practice, both compression and absorption. Some fields produce casing head gas with large quantities of liquefiable fractions, while other fields produce less. And, of the liquefiable fractions, we know too that at certain pressures, and at the temperatures prevailing in the cooling coils of compression plant, these larger quantities of certain fractions drop out in the accumulators. For instance, in a certain plant, the yield of gasoline was 1.2 gallons per thousand, at 210 pounds discharge pressure from compressors, while raising the pressure, and maintaining the same temperature on cooling coils, 250 pounds compressor discharge pressure dropped out 5.4 gallons per thousand feet of gas. This is well known in compression plant practice and is due to the different liquefying temperatures and pressures of the various fractions of hydrocarbons composing natural gasoline. There is no better laboratory than compression plant and absorption plant, when studying the gases found in oil sands, free with oil, with the view to knowing what is going on down in the formation, by inference or deduction.

The deeper wells of today, with higher pressures average than ever before, set up greater effects of gas emerging from oil, due to the greater expansions from higher pressures of the gas; cooling, from higher pressure gas expanding down to lower pressure, is greater than we have before been required to study and handle, and the substance of the papers covering this particular subject are of more import in daily and ultimate recovery.

Still following out our deductive method, when an oil sand with gas is first drilled into, the first gas emerging from the flowing well will have higher percentages of the most difficult fractions to dissolve or liquefy; as noted before, the percentage of non-liquefiable gas fractions (at the pressure and temperature found) will be found in solution directly as the pressure, with such remaining portion of these fractions as gas, when the pressure is not high enough to dissolve the whole content of such fractions, which depends upon the quantity of these fractions, and the pressure, as before noted.

These fractions naturally emerge first in larger percentage than afterward, and when these are exhausted, other lower fractions successively emerge either from solution or from liquefaction, which is always noted in a light oil field, for at the beginning, gasoline plants turn out less gasoline per thousand feet—the quantity increasing with the age of the field. At certain stages of pressure reduction in a field, the yield of gasoline increases at a ratio greater than usual, which indicates, by deduction again, that the vaporizing pressure of that fraction has been reached, when the rate of increase of gasoline recovery may slow up for a time, and at a still lower formation pressure, another still heavier and lower fraction begins to boil out of solution, with another gain in recovery. These recoveries hold, too, although the quantity of gas is less; that is, once a percentage of yield is reached, it either continues at that point if the formation pressure does not reduce, when if the pressure reduces on the formation, the yield will always increase, and not decrease.

We have now, fully before us, by deduction, the occurrences in a sand, beginning with the discovery well.

These phenomena are greater or less in effect, according to the amount of gas found with the oil, and therefore, quantity as well as pressure are the criteria of comparison, during the successive stages of production.

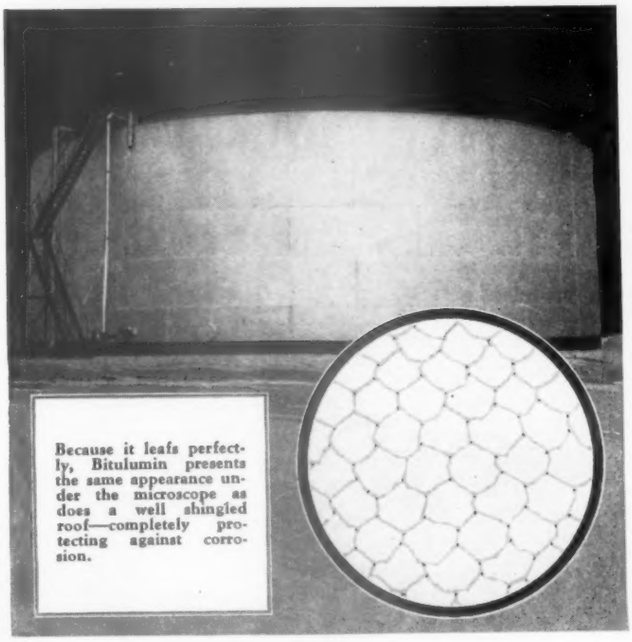
When gas is evolved from oil, and when gas in contact with oil expands, the refrigerating effect is proportional to the expansion of gas, for a smaller effect, while the work done during expansion is the greater effect of cooling. Simple expansion of gas, noted before, does not produce as much refrigeration as the expansion of gas while doing work; to do work with gas means that the heat equivalent of the work is taken out of the gas, resulting in lowering temperature of the gas. In contact with oil, particularly when moving with the oil, heat is taken from the oil by the gas, as well as the formation itself. Oil is an insulator of the highest type, against heat, and if gas were expanded from the surface of oil only, with the oil quiescent, penetration of the cooling effect is not as great as when the cooled gas is mixed with the oil, with greater surfaces of

BITULUMIN

A Permanent Aluminum Paint Finish

LEAFS PERFECTLY

— to form tiny overlapping "Shingles" impervious to sunrays and moisture



Because it leafs perfectly, Bitulumin presents the same appearance under the microscope as does a well shingled roof—completely protecting against corrosion.

Cross Sectional View

Cross Sectional View
ALUMINUM "SHINGLES"

The above photos visualize what happens when Bitulumin is applied. Tiny flakes of Aluminum, microscopic in size, immersed in the vehicle when freshly applied immediately float to the surface and form a metallic sheathing of overlapping "shingles" which protect permanently, against ultra violet rays and moisture, the inhibitive liquid beneath.

Since all Aluminum paints are not alike, the most costly mistake the buyer of paint can make is to specify "just Aluminum paint" for oil storage, tank cars, metal buildings, etc. The most important thing to consider in Aluminum paints is the vehicle, provided, of course, that a high quality aluminum powder is used. This statement is substantiated by the fact that the failure of ordinary Aluminum paint is due to the use of inferior vehicles, (Liquid.)

Bitulumin owes a great part of its remarkable success to its vehicle, which was developed as a result of the determination of Hill, Hubbell & Company's laboratory staff to create the *ideal* vehicle for its aluminum paint. The vehicle used in Bitulumin is neutral in character, full-bodied and of the correct consistency to permit ready "leafing" of the aluminum flakes. It is a *kettle boiled* combination of linseed oil, tung oil, and ester gums, blended in the correct proportions. Hill, Hubbell & Company have been making steel preservative coatings for twenty-five years.

Double-Containers Insure Fresh Mixing

The aluminum powder and vehicle are shipped in double containers so they can be freshly mixed on the job to insure perfect leafing and maximum efficiency. Bitulumin never comes ready mixed.

A specially prepared booklet, dealing with the results of exhaustive research work by Hill, Hubbell & Company on aluminum paints and metal primers for the prevention of corrosion, will gladly be mailed upon request.

HILL, HUBBELL & COMPANY

Manufacturers of
Highest Grade Oil Industry Paints and Pipe Line Coatings
Factories at SAN FRANCISCO and TULSA
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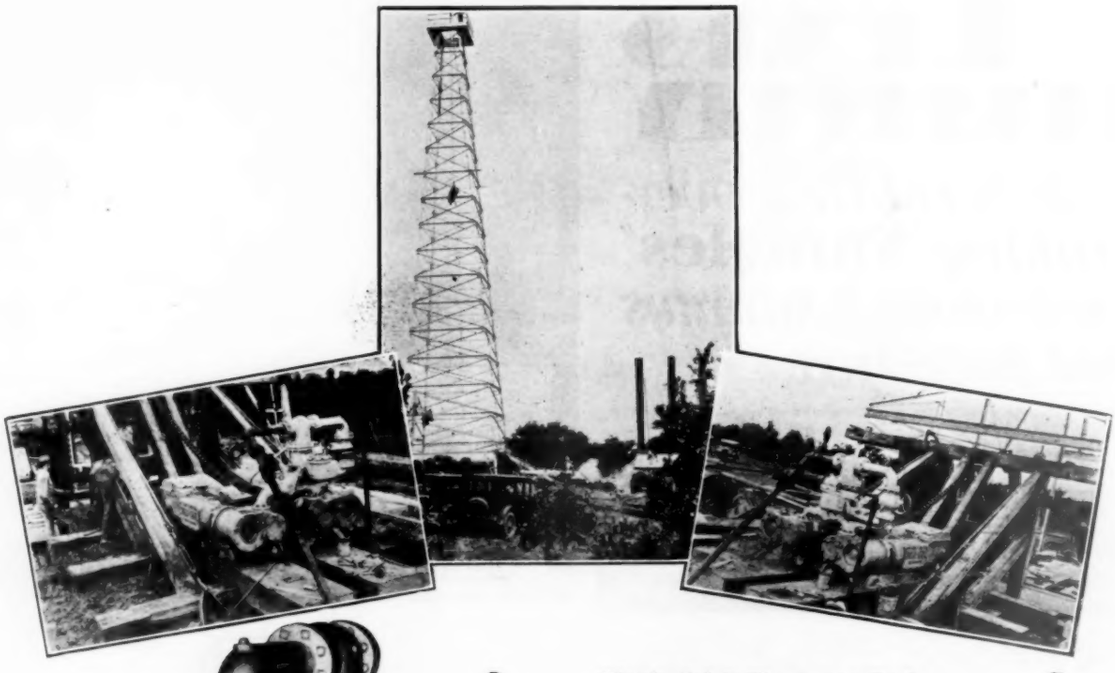
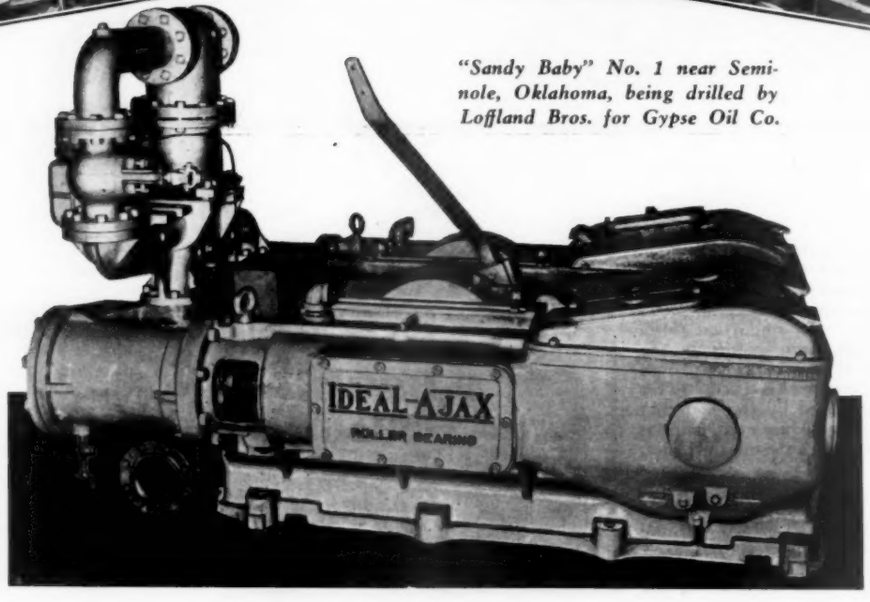
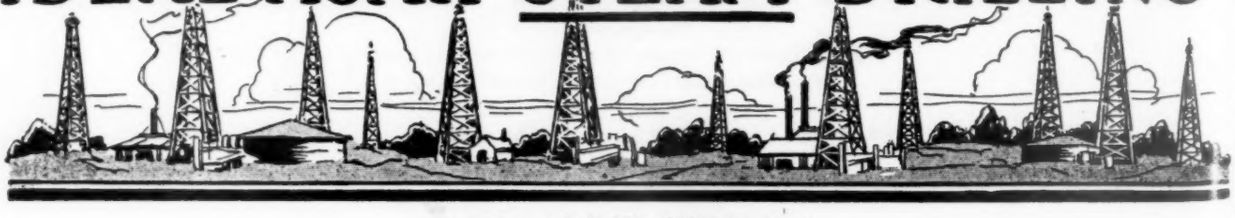
Another Ideal-Ajax Record



"Sandy Baby" No. 1 near Seminole, Oklahoma, being drilled by Loffland Bros. for Gypse Oil Co.



IDEAL-AJAX STEAM DRILLING



Say you saw it in The OIL WEEKLY

by Loffland Bros. . . .

Three New Features for Speed and Efficiency

The 12x12 Twin Ideal-Ajax, totally enclosed, is equipped with

HEAVY TIMKEN ROLLER BEARINGS

The first drilling engine in the field with anti-friction bearings Aug. 5, 1927.

CYLINDERS WITH BALANCED PISTON VALVES

A better use of power and a saving of vibration and wear.

STEAM SEPARATOR WITH AUTOMATIC TRAP

These features thoroughly proved by test and actual performance mean new saving in time and cost of drilling. Ask the National Supply Co. man for complete information.

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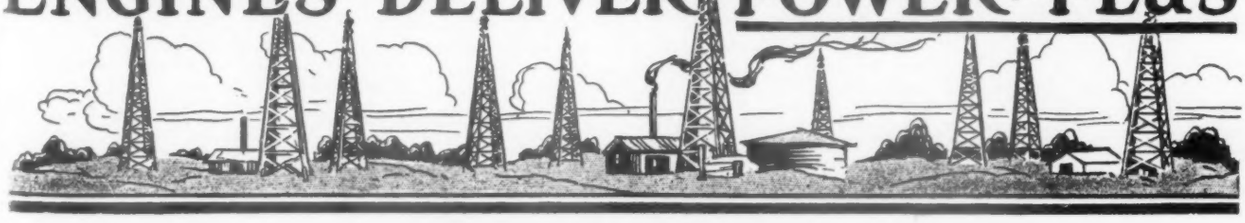
In every oil field

ENGINES DELIVER POWER-PLUS



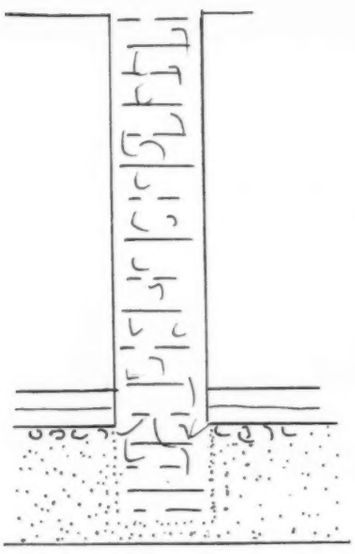


Figure 1

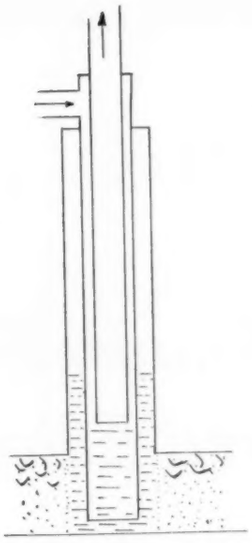


Figure 2

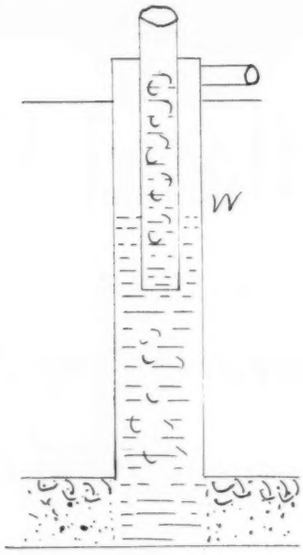


Figure 3

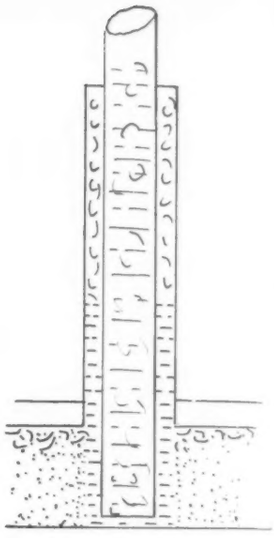


Figure 4

contact, for heat flow is directly proportional to the surfaces in contact, as well as to the difference in temperature causing such heat flow.

In natural gasoline, bubbles of vapor may be seen forming toward the bottom of the container, which rise to the top, growing in size as they rise, showing that the surface of oil is not the only point of release of vapor. If natural gasoline, of say 85 Beaume gravity, liquefied under pressure, is confined in a vessel at say 250 pounds pressure, and the pressure is slowly released, the greater quantity of gas evolution is from the surface, but with quick pressure release, the whole gasoline content of the vessel boils—gas forming in all parts of the gasoline and rising to the surface, as shown by tests on the surface under such conditions.

Gauge glasses on pressure containers show the foregoing to be true, also.

All of this points to the fact that pressure release from a formation does the same thing down in the sand, and with pressure release comes vaporization of gas, expansion of the gas, and cooling.

The eventful recovery of all the gas that exists by reason of pressure in an oil sand is inevitable, but the point here is that oil recovery can be greatest, if recovery of oil is effected before the gas and pressure is released, for, after release, the sand conditions have been materially changed by lowering pressure and temperature—flow of oil is much slower due to lowering temperature—and tests of heating sands while repressuring have not yet shown that it is possible commercially to heat a whole oil sand and restore its pressure with gas pumped in, and secure any more oil than by simply repressuring, although there is no doubt in the writer's mind that heat with repressuring will eventually prove the most potent method of reviving sands thought exhausted.

Which points again to the fact that the lowest recovery costs and the greatest recoveries can be had by controlling production of oil and gas and pressure while production goes on.

Example of a Flowing Well

With our premise now established by deduction, let us take an example of a flowing well, as shown in the accompanying Figure 1. Here is shown casing set directly on top of a sand; a gas tight roof covering the sand; a quantity of free gas trapped above the oil in the roof, and oil is flowing freely to the atmosphere at the surface, without back pressure at the surface.

Evidently, free gas in this well has a full opening into the well bore, and accordingly, the free gas flows in more easily, not having any work to do except propelling itself into the well bore.

But, pressure throughout the sand is more nearly constant, and oil therefore flows into the well bore below the free gas entry. Beyond question, this oil has gas in solution, together with lower fractions in liquid form—or as lightest oil. Flow of oil and gas sets up a zone of pressure reduction around the well, which gradually spreads.

After entering the well bore, and starting upward, expansion of the free gas continues with pressure reduction, and, if free gas were the only medium of lifting oil, we could assume correctly that the pressure curve from the bottom of the well to the top, would be uniformly reduced from well pressure at bottom, to atmosphere at the top, but free gas is not the only medium—that is, free gas that came in with the oil as free gas.

Velocity up the casing or flow line is increased by additional gas coming out of solution with pressure reduction, adding to the quantity of gas, in addition to increasing volume by expansion. Then, also when vaporizing pressure of the liquified lighter fractions is reached, perhaps in the casing at this early stage of production, additional gas is formed, setting up further velocity increase due to the additional gas and its expansion. Still further up the casing, the still lower fractions of liquefied vapors boil out and begin to expand. At the same time, work is being done by all the gas in lifting oil to the surface, and we have the perfect heat engine.

Vaporization and expansion both require heat, and the only source of heat is the oil with which the gas is intimately mixed, and the result is that the oil is cooled. It may be developed that the point at which paraffin begins to accumulate in casing or flow line, is the point at which cooling has precipitated paraffin — the beginning of which may be at first in the casing or flow line toward the surface, and which gradually progresses down the well, depositing paraffin at successively lower beginning points, until when the cooling effect has reached bottom, it then begins to extend out into the sand itself.

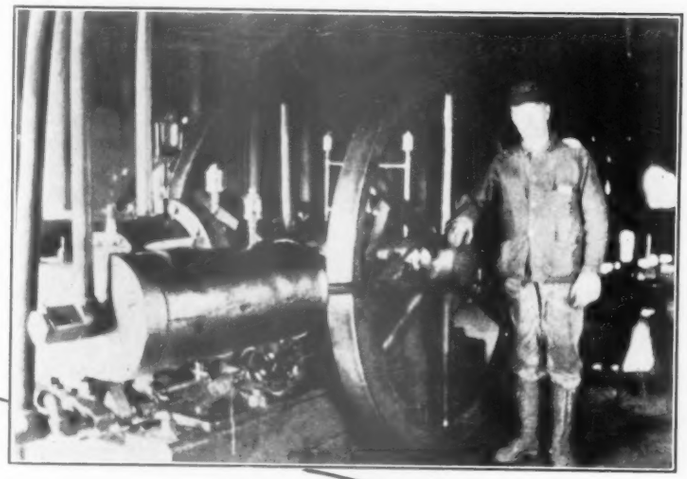
From the beginning point of deposition of paraffin, the paraffin is softer and in less quantity, than found further up the casing.

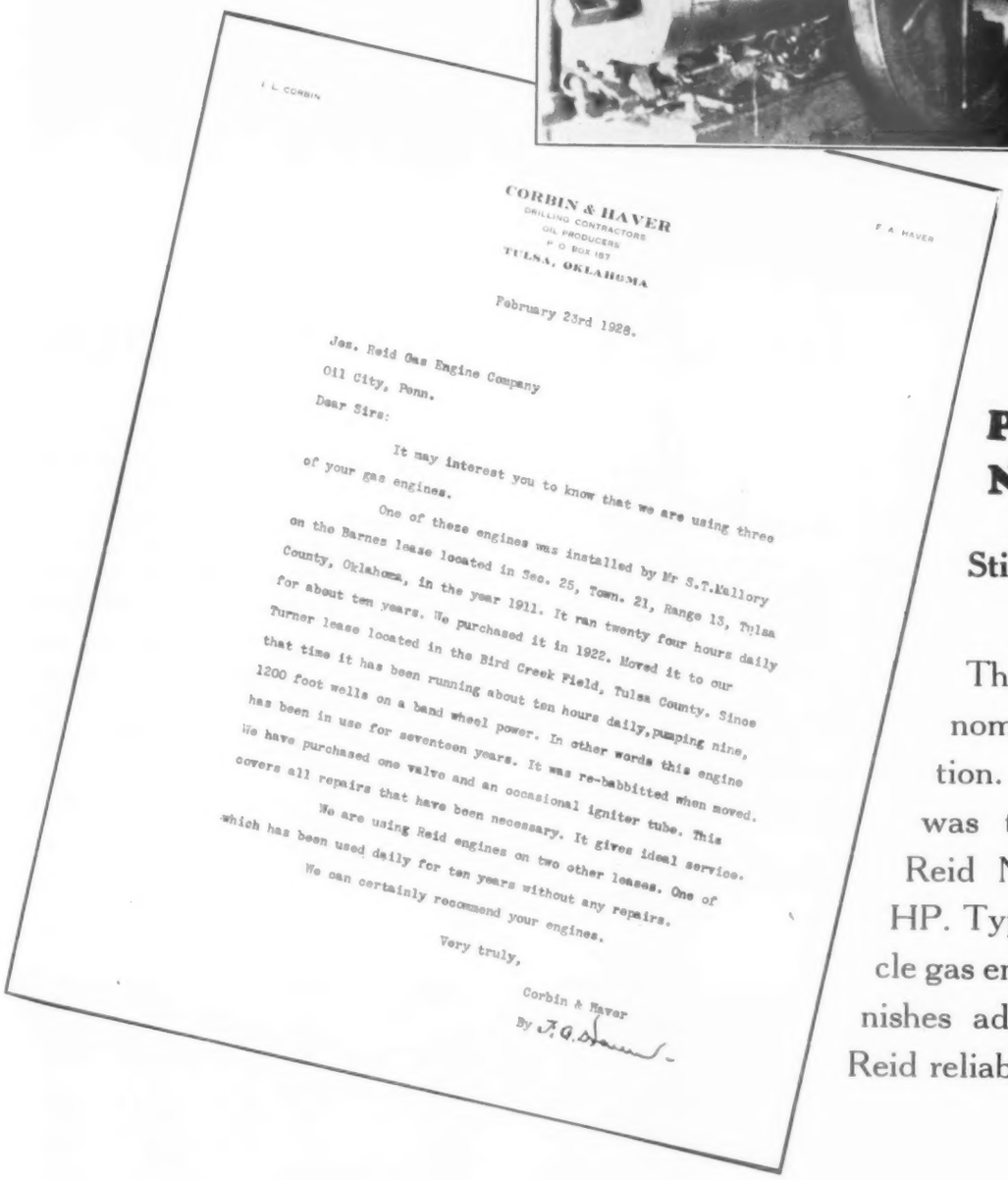
Production of dissolved and liquefied gas as not under direct measure of control; when pressure is released upon oil containing gas in solution and as liquid, the gas simply releases itself from the oil; we have no means of controlling soluble gas intake with oil, for the gas in solution is oil when taken in under pressure, and is gas, when released later out of the oil.

We can, however, maintain pressure upon the sand, and in that manner prevent the evolution of soluble gas in the formation itself, and thereby use the soluble gas still as an additional means of pressure retention.

The most used air and gas lift piping layout is shown in Figure 3, with a single inner line, which inner line may be used for flowing upward, with gas

More than 100,000 hours of trouble-free service!





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DRILLING CONTRACTORS
OIL PRODUCERS
P. O. BOX 187
TULSA, OKLAHOMA

F. A. HAVER

February 23rd 1928.

Jos. Reid Gas Engine Company
Oil City, Penn.
Dear Sirs:

It may interest you to know that we are using three of your gas engines.

One of these engines was installed by Mr S.T.Mallory on the Barnes lease located in Sec. 25, Town. 21, Range 13, Tulsa County, Oklahoma, in the year 1911. It ran twenty four hours daily for about ten years. We purchased it in 1922. Moved it to our Turner lease located in the Bird Creek Field, Tulsa County. Since that time it has been running about ten hours daily, pumping nine, 1200 foot wells on a band wheel power. In other words this engine has been in use for seventeen years. It was re-babbitted when moved. We have purchased one valve and an occasional igniter tube. This covers all repairs that have been necessary. It gives ideal service.

We are using Reid engines on two other leases. One of which has been used daily for ten years without any repairs.

We can certainly recommend your engines.

Very truly,

Corbin & Haver
By J. O. Haver

17 years constant service

Practically NO repairs

Still going strong

That is **real** economical operation. This report was turned in by Reid No. 8012, 30 HP. Type A, two cycle gas engine, and furnishes added proof of Reid reliability.

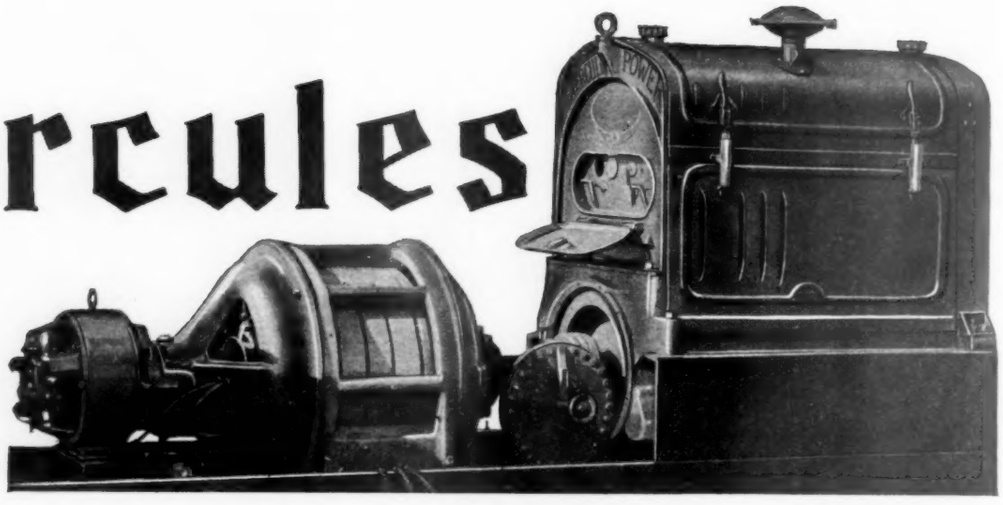
JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES AND AGENCIES—Marietta, Ohio; Logan, Ohio; Newark, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Frick & Lindsay Co., Bradford, Penna; and Kentucky Distributors; S. R. Shoup, 724 Board of Trade Bldg., Los Angeles, Cal.; Frick-Reid Supply Company, Tulsa, Oklahoma, and Branches, Distributors for Oklahoma, Kansas, Texas, Arkansas and Wyoming. Branch Shop, Tulsa, Oklahoma.

EXPORT REPRESENTATIVES: Oilfield Equipment Co., 30 Church St., New York City. Branch Shop: Tulsa, Okla.

Say you saw it in The OIL WEEKLY

Hercules



Polishing a Pipe Line from Yale to St. Louis

The Shell Pipe Line Company is doing a cleaning job. 420 miles of line from Yale, Pine County, Oklahoma, to St. Louis is being lifted, cleaned, painted and relaid while the crude flows.

This ingenious pipe cleaning machine is a product of the W-K-M Company, Inc., Houston, Texas, and is operated by an electric motor. Current is supplied by a 17½ k. v. a. generator mounted on wheels and directly connected to a Hercules Power Unit.

Progress depends largely on reliability at the power-source—on the Hercules Engine. But even now the successful completion can be forecast, probably ahead of schedule, so far as power supply is concerned. For that is the sort of performance that has made Hercules Engines first choice for many so-called impossible jobs.

Continuous power, delivered smoothly, in sufficient quantity, at an economical rate; this is the record of any Hercules Engine on any commercial or industrial work.

HERCULES MOTORS CORPORATION, CANTON, OHIO, U. S. A.

Southern Representatives:

Norvell-Wilder Hardware Co., Beaumont, Texas; Fort Worth, Texas; Houston, Texas; Shreveport, La. The Western Supply Co., Tulsa, Okla.; Cromwell, Okla.; Blackwell, Okla.; Covington, Okla.; Pearson, Okla.; Seminole, Okla.; Borger, Texas.

or air pumped down the casing, or the flow may be up the casing, with gas or air down the inner line.

Evidently, either pressure of formation forces oil up to the working level W, or gas lifts the oil to that point on air lift principle. In either case of flow, it is evident that free gas may enter freely.

The layout shown in Figure 4, when blowing down the inner line and flowing up the casing, also allows free gas to enter freely, even though the line is in close proximity to bottom.

But, suppose that we pipe the same well up as shown in Figure 2, and that air or gas under pressure is pumped between the two inner lines.

Inlet of oil being lower than the bottom of free gas, it is obvious that little free gas can enter; thickness of sand controlling this somewhat.

Then, only oil with gas dissolved in it can enter, and while some of the gas evolved may be the last fraction—methane—it may be safely assumed that such methane as produced was originally in solution when the oil started flowing into the well.

The same process of evaporation and expansion is set up as oil is driven to the surface, with the exception that considerable free gas has been prevented from entering, due to closing between lines and casing at the surface. This closure sets up back pressure on the sand, the effect of which this method of piping seeks.

Pressure reduction, causing flow into the well, is then toward the bottom of the well, but which of course radiates in reduction.

The quantity of gas required for pumping the well in this case may be furnished from compressors, thereby retaining in the sand, the free gas. It is not possible to retain dissolved gas, for it comes into the well as oil, and if oil is produced, gas is produced, of this kind.

As may be inferred, the design of flow lines is entirely dependent on each well of a field, the pressure on the sand, and a number of other factors.

Whether the oil-gas ratio is lowered more by raising the pumping level, compared to placing back pressure on the casinghead, is a matter of well piping.

Head of oil in a well of say 1000 feet of oil or say 400 pounds, theoretically, is the same as if the well were pumped down that 1000 feet with 400 pounds maintained on the casinghead, insofar as back pressure is concerned, for pressure on the sand at bottom is the same in either case, but the admission of free gas is not the same.

If oil stands on the sand 1000 feet, and oil is taken from the well with piping as shown in Figure 4, flowing up the casing, free gas comes into the well freely, together with liquefied and dissolved gas in the oil.

If the quantity of free gas can be limited, as herein, there may not be sufficient evaporated gas to start the well upward, or to continue its flow if it is started from compressors, and the flow line would therefore be made of such size that velocity will not exceed 15 feet per second, or less, down to 12 feet per second, of the oil and gas mixture—whatever the source of gas.

But, when the gas and oil have been elevated to such point that additional gas is evaporated, then at such point, the line necessarily would be increased in cross section greater than below. This point may be located from the beginning point of paraffin deposits. Following, up the line further, where paraffin deposits accumulate in greater quantity, the evolution of additional gas is indicated, and the flow line would be further increased in diameter, to prevent excessive velocities.

Thus, a flow line for serving such well would not have an arbitrarily gradually increased diameter, but the design is made more in line with the requirement of the well, for securing the highest duty of the gas produced with the oil and the gas pumped in, if the latter is necessary at this stage.

Another method of placing back pressure on a well is to carry the oil level high by elevating the pumping level. Whether this is successful in lowering the ratio of gas to oil, also depends upon the method of piping the well. If the pressure is carried on the outside of a flow line, as shown in Figure 3, the oil column above the sand is open to the sand, and gas may flow from the sand, or evolve from the oil column, and be lost for effective use. But, if the flow line and casing are closed between, confining the gas and oil between the two pipes, preventing gas escape, then the ratio of gas to oil may be reduced materially, as has been demonstrated by test in the field. The latter method is the equivalent of that shown in Figure 2.

To entirely avoid the loss of gas and pressure from a formation means that gas production must be avoided. That is out of the question, to be sure, for gas must come in with oil as oil or in solution with the oil.

One answer is the furnishing of heat to replace that taken out of the well with production; the other is furnishing gas to the formation, by pumping it in, as fast as it is produced from wells, to maintain pressure, instead of letting pressure off and then repressuring. While the latter method would not avoid cooling, it undoubtedly assists total recovery as well as daily recovery, for the method has been used by the writer, taking gas from a high pressure gas well and leading into an oil formation nearby.

Maintenance of pressure by using compressors is not such a difficult or expensive process where pressures on the sand are not high, say not over 300 pounds, but when sand pressures are 800 or 1000 pounds or higher, it becomes a matter of considerable outlay and operating expense, although without question it could be shown by actual results in the field that the method itself is correct all the way through.

There are various methods that may be used for control, along the lines set out in this paper. Pressure control and gas production control are not easily set up, we may be sure, where pressures are high and where the quantity of oil is high.

Simple application of back pressure, by means of chokes, or beans, accomplishes the one thing of preventing damage to the well set up by high velocities; pressures are in some cases so high that a well may drill itself deeper, and go into water; in others, the walls may cave; in others sand may be pulled in, sanding the well or cutting out fittings; in others, with strainer, high velocity with sharp sand sets up abrasion which cuts out the strainer; in still others, of the deeper sands, may be so made that the casing is dependent upon pressure from inside to prevent collapse due to earth and water pressure on the outside, when opened up, relieving casing pressure, the casing may collapse. These are well known and high pressure wells are seldom, if ever, opened up and allowed to flow freely into atmosphere or tank, until the pressure has been relieved somewhat by production of gas and oil.

It is quite evident that the pressure and temperature at which the various fractions of gas liquefy is quite important to the discussion in hand. The average gas lift compressor plant furnishes all the facilities needed for liquefying the fractions successively, at the surface; the same may be done in the laboratory, the location of which, however, necessarily must be in proximity to the field.

These factors when obtained are those necessary for use for the particular wells and field furnishing the gas.

The value of field practical information as related to engineering principles is emphasized. When one goes to the field and tries to find exact conditions, with the idea of applying exact remedies, he finds that there are so many phases of production, so many variable beyond control, so many principles of mechanics, physical chemistry and hydraulics involved, that precise application of any well known engineering principle is difficult in the extreme.

But, generally, using the best there is of our knowledge of engineering as applied to the oil field, any application of the same must be along more general, than precise lines, but with the same in view.

This emphasizes the scantiness of our knowledge of what occurs in a formation producing oil, the lack of sufficient research to definitely establish certain facts, or disprove certain deductions, and enlarges the viewpoint of the engineer in the field to include wholly and without reservation, field practices that have become well established through experience gained in producing oil.

On the other hand, the bringing into the field of exact knowledge along

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"But believe me I'm sold on the Harrisburg Coupling.

"Harrisburg Forged Seamless Steel Couplings made a hit with me first time I used 'em—and they've kept me satisfied ever since.

"Yet, why shouldn't they? Couplings produced by a company

HARRISBURG

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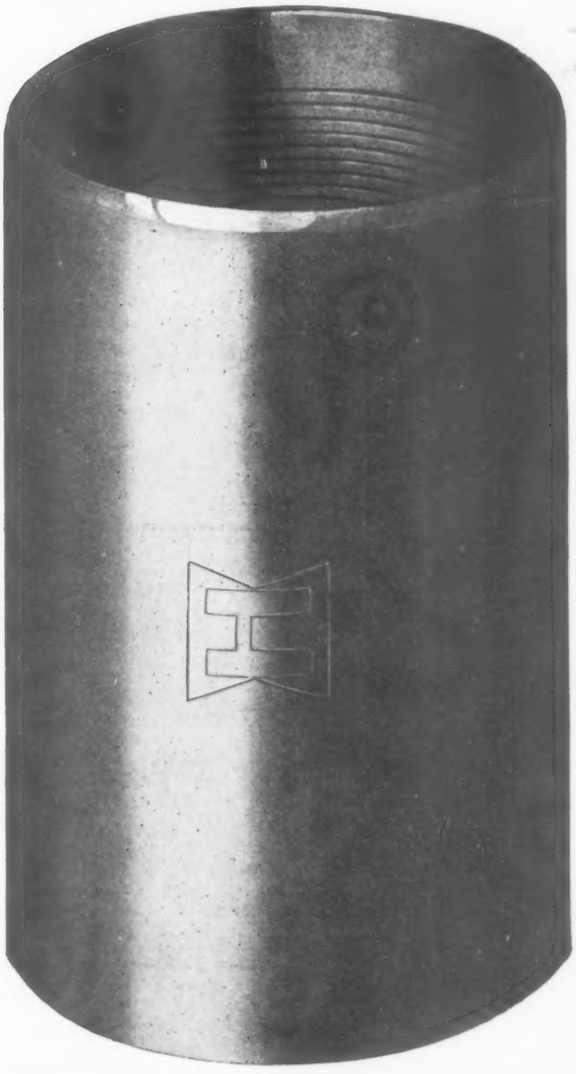

– and Hard to Convince"

that owns and operates its own open hearth furnaces, rolling mills and forge shops ought to be way above the average in reliability, uniformity and dependability. And I'll say they ***are!***"

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these lines should be of value to supplement the experience of the field, for it is only by working hand in hand, theory with practice, that progress of this nature will be made.

With the complexity of the situation as set out in this paper, it is evident that any legislation which attempts to fix an arbitrary gas-oil ratio, without taking cognizance of the engineering phases involved, will fail of enforcement in most cases for conservation cannot go so far as to set up conditions under which wells will not flow and under which they cannot be made to flow, for police power does not extend that far.

In the endeavor to limit the production of oil to that which may be absorbed readily by the market, prohibiting compressors by law sets up a still greater loss of ultimate production, as may be gathered from the foregoing line of reasoning, which, by the way, is based upon over 20 year of oil field engineering practice.

The writer fully expects that, instead of setting up an arbitrary rule as to oil-gas ratio, or an arbitrary rule eliminating compressors from a field, the future will show practices and rules based first on an oil-gas ratio consisting of free formation gas only, and that this rule will require the introduction of compressed gas, or air, to hold this ratio down; that liquifiable gas, released after oil has entered the well, will be eliminated from the rules for conservation, at the beginning of a field, for we know of no way in which to limit the production of liquefied gas — it comes in as oil, and if oil comes in, soluble gas will also come in.

And that this rule will prevail until the formation pressure has reduced to the vaporization pressure of liquefied gas, when this gas will then be included in the oil-gas ratio, along with what free gas is left.

Further, that the duty that must be obtained from all gas will be fixed above a certain minimum, which minimum will be based upon the best engineering practice in air-gas lift.

And, when the final pressure has subsided in a field, it will be ready for the repressuring process.

West Texas Production

WINKLER COUNTY

Hendrick Field—

	Producing Wells	Daily Average Prod.
Roxana Petroleum Corporation	30	*22,395
Southern Crude-R. A. Westbrook	36	*20,290
Pure Oil Company	24	*13,710
Atlantic & Collett-O'Keefe	10	*13,300
Roxana Pet. Corp. & Texas Co.	25	*12,780
Gulf Production Co.	21	*12,640
Humble Oil & Refining Co.	30	*11,055
Atlantic Oil Prod. Co.	25	*10,400
Skelly Oil Company	11	*9,310
Republic Production Co.	9	*6,940
Southern Crude-Dixie Oil Co.	23	*6,870
Cranfill & Reynolds, Inc.	6	*6,800
Prairie Oil & Gas Co.	4	*6,135
Independent Oil & Gas Co.	15	*4,545
Texon Oil & Land Co.	8	*4,060
Murchison & Cranfill Bros. Oil Co.	6	*3,475
Marland Production Co.	5	*2,790
The California Company	8	1,600
Magnolia Petroleum Co.	8	1,540
Atlantic & Kessler-Logan	1	1,140
Winkler Oil Prod. Corp.	1	*240
C. W. Murchison-T. P. Lee et al	1	*200
Total	307	172,215

CRANE COUNTY

Church & Fields—

The Texas Co. (was Landreth)	16	7,060
Simms Oil Co. & Atlantic Oil Prod. Co.	31	6,440
Prairie Oil & Gas Co.	12	4,885
Tidal Oil Co. & Turman-Maxwell	25	4,275
Magnolia Petroleum Co.	33	3,510
Warner-Quinlan Co. of Texas	27	3,505
Humble Oil & Ref. Co.	14	3,020
Gulf Production Co.	11	1,505
Independent Oil & Gas Co.	7	1,275
The Texas Company	3	470
Church & Fields	3	390
T. P. Coal & Oil Co.	1	50
Stidham & Thrasher	1	5
Total	184	36,390

Gulf-McElroy—

Gulf Production Co.	64	14,295

Gulf-Waddell—

Gulf Production Co.	1	15

Marland-Hughes—

Marland Production Co.	14	420
The Texas Company	9	130
McMan Oil & Gas Co.	2	55
C. C. Duffy et al	1	115
Total	26	720
Totals for Crane County	274	51,405

*Production partially pinched.

REAGAN COUNTY

Big Lake Field—

Big Lake Oil Co.	139	14,335
Texon Oil & Land Co.	79	3,920
Skelly Oil Company	1	35
The California Co.	1	15
Total	220	18,305

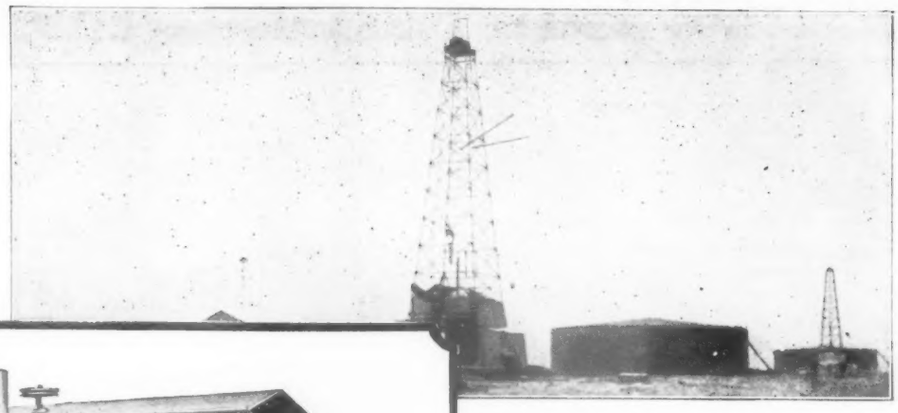
PECOS COUNTY

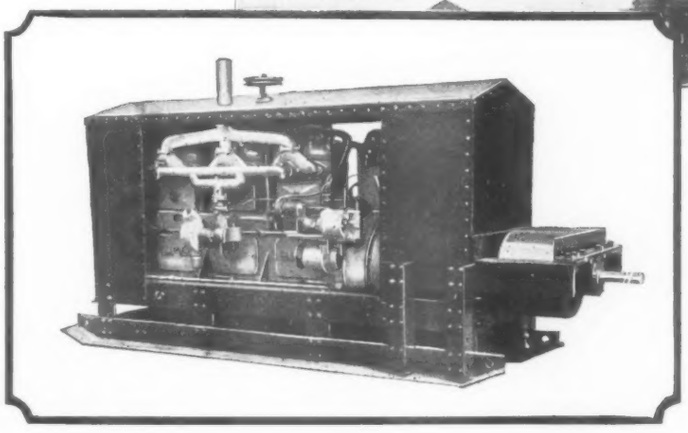
Yates Field—

Mid-Kansas-Transcontinental Oil Co.	95	*14,605
The California Company	33	*9,950
Gulf Production Company	23	*6,785
Gulf Prod. Co. (Crockett County)	3	80
Simms Petroleum Corp.	7	*5,125
Roxana Petroleum Corp.	20	*4,635
McMan O. & G. Co. & Marland Prod. Co.	17	*3,925
McMan Oil & Gas Co.	9	*2,820
Humble Oil & Refining Co.	13	*2,255
Marland Production Co.	10	*655
Matador Oil Company	1	570
Mazda Oil Corp. & Savoy Oil Co.	3	*495
Oil Operators Trust, Inc., & A. T. Herd	7	*330
Kirby Pet. Co. & Edson Pet. Co.	1	200
Redbank Oil Company	3	*185
Skelly Oil Company	1	105
Cosby Drilling Co.	1	80
Kirby Petroleum Co.	1	50
Phillips Petroleum Co.	1	45
Grayburg Oil Co. & T. T. Word	3	*35
Dixie Oil Company (Crockett Co.)	1	20
Total	253	52,950

MISCELLANEOUS

Upton County	284	11,300
Howard County	172	*10,915
Mitchell County	141	3,120
Crockett County	41	2,945
Jones County	34	3,005
Fisher County	4	1,090
Loving County	4	130
Runnels County	2	70
Scurry County	5	35
Ector County	2	10
Total	689	32,620
Total for all fields	1743	327,495
Total previous week	1713	355,285





This Climax "Paymaster" 6-cylinder drilling unit is equipped with such features as electric starter, double ignition, gas and gasoline carburetor, instrument board, anchor turnbuckles, etc., and its light weight per h. p. makes it easy to move.

Down 55% Quicker

The Magnolia Petroleum Company sunk a well in west Texas with a Climax "Paymaster" Drilling Unit. It so happened they spudded in close to a couple of other makes of drilling units. At the end of ten days, the Climax unit was within 200 feet as far down as the unit that had a 20-day head start. And it was within 260 feet as far down as the unit that had a little over 24 days' head start. The Climax Drilling Unit was down 55% faster in one case and 75% faster in the other—you know which outfit struck oil first. If you are interested in seeing one of these units in action, write us. There may be one within driving range.

Because:

The Climax "Paymaster" gets holes down faster on the average. It gives perfect tool action. It drops the tools quickly and picks them up smoothly. And it gives the driller the perfect control that minimizes the danger of breaking cables. Light in weight —operates on gas or gasoline —economical.

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CRUDE OIL PRICE QUOTATIONS

CRUDE PRICE CHANGE

Effective at the opening of the market August 15, Standard Oil Company of California, announced an increase in the price of California crude oil ranging from one cent a barrel on the lower grades to 59 cents on the highest grade. The advance averages about 15 cents per barrel.

CURRENT POSTINGS

EASTERN STATES

	Aug. 21 1928
New York Transit	$3.05
Bradford District	3.05
National Transit	2.90
Southwest	2.90
Eureka	2.85
Buckeye	2.65
Macksburg	2.80
Gaines	2.60
Somerset	1.55
Cabell	1.45
Ragland	.95
Corning, 35-cent grade	1.45
Corning, 25-cent grade	1.55
Keister	1.20

CENTRAL STATES

Illinois	1.55
Indiana	1.37
Lima	1.60
Plymouth	1.28

Refining Company)*

Below 25 gravity	.60
Princeton	1.55
Waterloo	1.35
Wooster	1.67

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren.

All grades	1.55

MID-CONTINENT

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.*

25. to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

*The Texas Company posts a price of 60 cents on 24 to 24.9 gravity.

MID-CONTINENT

Magnolia Petroleum Company

Below 25 gravity	.60
25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.75
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.16

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude

(Humble Oil and Refining Company)*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

SOUTH TEXAS

Mirando	1.00

SOMERSET

Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

The Texas Company

MARKHAM

All grades	1.00

LULING

All grades	1.00

PANHANDLE GRAY COUNTY

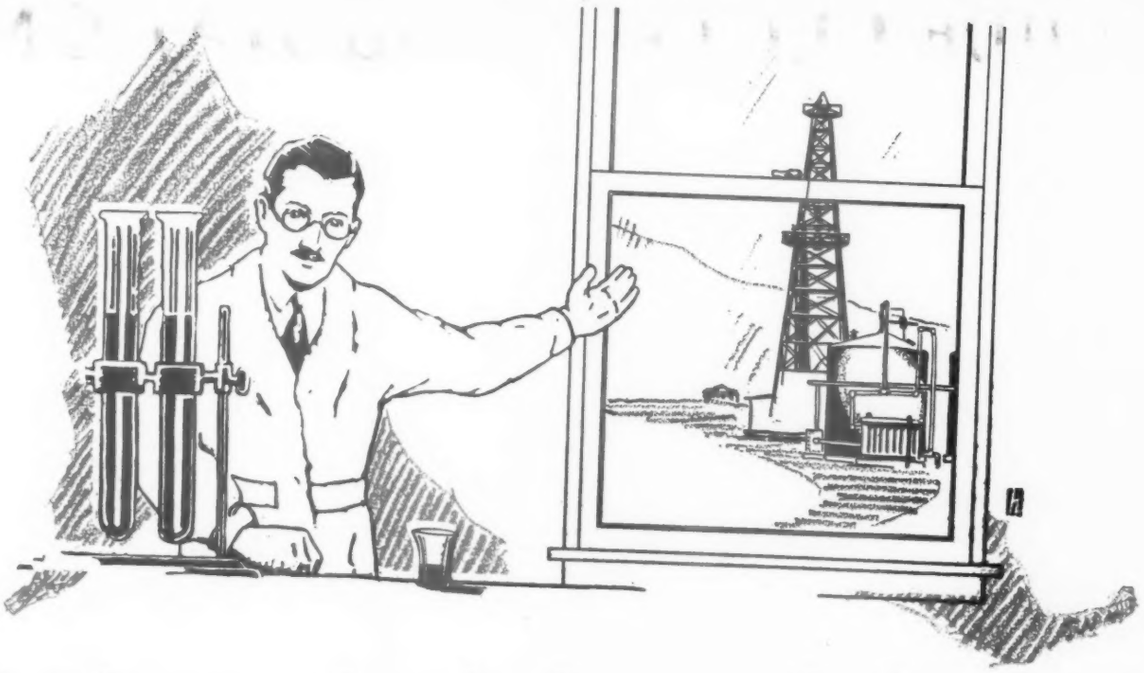
(Humble Oil and Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.68
29 to 29.9 gravity	.75
30 to 30.9 gravity	.82
31 to 31.9 gravity	.89
32 to 32.9 gravity	.96
33 to 33.9 gravity	1.01
34 to 34.9 gravity	1.06
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.16
37 to 37.9 gravity	1.21
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.31
40 to 40.9 gravity	1.36

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity	Signal Hill	Alamitos Hts Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14.9	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ...	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.86	.85	..	..	.77	.77	.77	.77	.77
21-21.9	.89	.89	.89	.89	.89	..	.89	.89	.88	.89	.88	.89	..	.79	.79	.79	.79	.79
22-22.9	.93	.93	.93	.93	.93	..	.93	.93	.91	.92	.91	.92	..	.82	.82	.82	.82	.82
23-23.9	.97	.97	.97	.97	.97	..	.97	.97	..	.95	.94	.95	..	.86	.86	.86	.85	.85
24-24.9	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.21	1.21	1.21	..	1.21	1.21	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.25	1.25	1.25	..	1.25	1.25	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	1.41	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	1.47	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	1.53	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	1.59	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	1.65	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	1.71	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	1.77	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	1.83	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	1.89	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	1.95	..	..	..	..	..	..	..	..	..	..	..	..



"Gentlemen, there's the remedy for cut oil losses—a PETRECO installation."

The Official Oil Doctor is speaking; and he ***knows*** what he's talking about! "Petreco" electrical dehydration is a sure cure for profit losses from cut oil. Emulsions of any water content are quickly and economically turned into uniformly clean oil of pipe-line specifications. Stop giving away your profits! Conquer cut oil and cut oil losses now and for all time. Consult the Oil Doctor about your requirements—let him prescribe (without obligation, of course) the particular "Petreco" installation best suited to your needs.

The Oil Doctor's book "The Electrical Process for the Dehydration of Crude Oil Emulsions" is yours for the asking. It explains everything—gives facts, figures, and illustrations. Write for your copy today.

PETROLEUM RECTIFYING COMPANY of CALIFORNIA

Security Title Insurance Bldg. 530 West 6th Street, Los Angeles, Calif.

Petroleum Bldg. Houston, Texas

Petreco

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

Say you saw it in The OIL WEEKLY

	Aug. 21 1928
41 to 41.9 gravity	1.41
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.51
44 and above	1.56

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.65
30 to 30.9 gravity	.72
31 to 31.9 gravity	.79
32 to 32.9 gravity	.86
33 to 33.9 gravity	.91
34 to 34.9 gravity	.96
35 to 35.9 gravity	1.01
36 to 36.9 gravity	1.06
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.16
39 to 39.9 gravity	1.21
40 to 40.9 gravity	1.26
41 to 41.9 gravity	1.31
42 to 42.9 gravity	1.36
43 to 43.9 gravity	1.41
44 and above	1.46

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.69
32 to 32.9 gravity	.76
33 to 33.9 gravity	.81
34 to 34.9 gravity	.86
35 to 35.9 gravity	.91
36 to 36.9 gravity	.96
37 to 37.9 gravity	1.01
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.11
40 to 40.9 gravity	1.16
41 to 41.9 gravity	1.21
42 to 42.9 gravity	1.26
43 to 43.9 gravity	1.31
44 and above	1.36

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties and that part of Glasscock not included in the Chalk field. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

(Magnolia Petroleum Company)

Mitchell County	$ .80
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.48
Grass Creek	1.48
Rock Creek	1.33
Lost Soldier	.95
Lance Creek	1.48
Mule Creek	1.10
Notches	.65
Big Muddy	1.33
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	$1.65
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

	Aug. 21 1928
Artesia	1.08
Hogback	1.38

CANADA

Oil Springs	2.07
Petrolia	2.00

NORTH LOUISIANA
(The Texas Company)

24 to 24.9 gravity	.76
25 to 25.9 gravity	.81
26 to 26.9 gravity	.86
27 to 27.9 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76

LOUISIANA-ARKANSAS
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley**
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company).

	Aug. 21 1928
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 gravity and above	1.76

*Shreveport-Eldorado's postings stop at above 40 gravity.

**Below 36 gravity, the posting on Cotton Valley is 75 cents. From 36 to 52 and above the regular gravity schedule is followed.

STEPHENS
(All Companies)

Below 28 gravity	.75
28 to 28.9 gravity	.79
29 to 29.9 gravity	.83
30 to 30.9 gravity	.87
31 to 31.9 gravity	.91
32 gravity and above	.95

SMACKOVER
(All Companies)

Below 24 gravity	.75
24 and above	.90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	Week End'd August 11	Week End'd August 4
AT ATLANTIC COAST PORTS—		
Baltimore	200,000	203,000
Boston	.....	.....
New York	525,000	a1,047,000
Philadelphia	75,000	a309,000
Others	.....	140,000
Total	800,000	1,699,000
Daily average	114,286	242,714
AT GULF COAST PORTS—		
Galveston District	.....	70,000
New Orleans and Baton Rouge	401,000	303,000
Port Arthur and Sabine District	.....	.....
Tampa	.....	.....
Total	401,000	373,000
Daily average	57,286	53,286
AT ALL UNITED STATES PORTS—		
Total	1,201,000	2,072,000
Daily average	171,572	296,000
Daily average four weeks ended	245,714	247,679

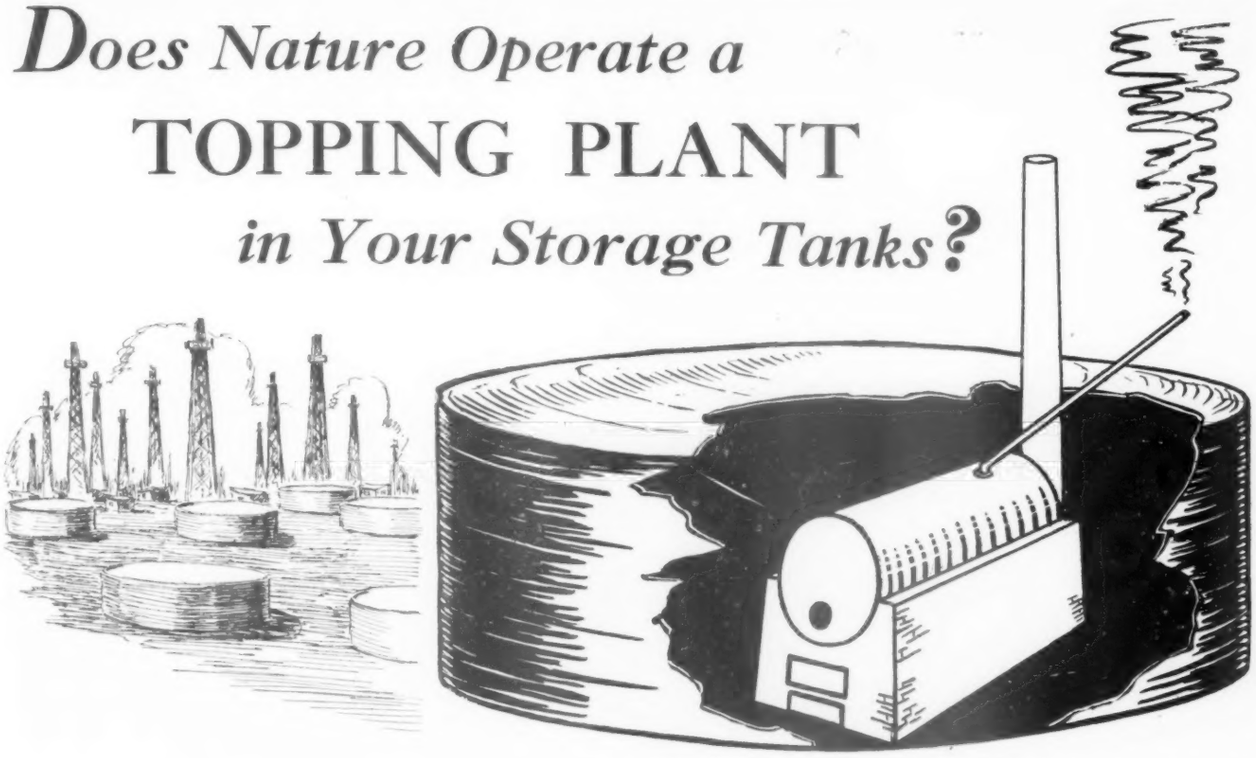
RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 Gallons)

	Week End'd August 11	Week End'd August 4
AT ATLANTIC COAST PORTS—		
Baltimore	152,000	71,000
	112,000	.....
New York	216,000	248,000
Philadelphia	253,000	237,000
Others	.....	a55,000
Total	733,000	611,000
Daily average	104,714	87,286
AT GULF COAST PORTS—		
Daily average	.....	.....
TOTAL—ATLANTIC AND GULF COAST PORTS	733,000	611,000
Daily average	104,714	87,286
Daily average four weeks ended	83,393	68,964
DISTRIBUTION OF TOTAL CALIFORNIA OIL RECEIPTS:		
Crude	112,000	135,000
Gasoline	545,000	331,000
Gas Oil	76,000	145,000
Total	733,000	611,000

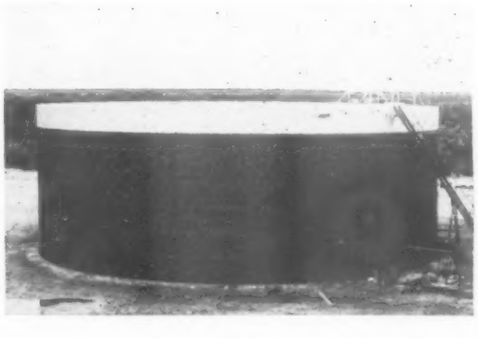
aRevised

Does Nature Operate a TOPPING PLANT *in Your Storage Tanks?*



The tank below is equipped with a Wiggins Breather Roof which prevents the loss of light fractions of oil by daily breathing.

This roof is a companion type to the Wiggins Floating Roof which is in wide use for working tanks.



AS soon as crude oil reaches the atmosphere, Nature's topping plant begins to operate. Even at ordinary temperatures, the lightest fractions in the oil volatilize. The gravity of oil in a storage tank may drop two or three degrees in a comparatively short time.

Nature's topping is done at your expense. All the light vapor that escapes is a total loss—both in volume and in the value of the remaining crude with its lower gravity.

This loss is easily avoided in standing storage tanks by the application of Wiggins Breather Roofs. Changing vapor volume caused by varying temperature is accommodated under this gastight roof by an up and down flexing. There is no vapor lost and no fresh air admitted to the tank except during filling and emptying or at periods of seasonal temperature change. Therefore, there is practically no drop in gravity in oil stored under the Wiggins Breather Roof.

Stop evaporation losses on standing storage by equipping your tanks with Wiggins Breather Roofs. Our nearest office will gladly estimate on your requirements.

CHICAGO BRIDGE & IRON WORKS

Dallas—3338 Magnolia Bldg.
Chicago—2142 Old Colony Bldg.
New York—3144 Hudson Terminal Bldg.
Cleveland—2241 Union Trust Bldg.
San Francisco—1055 Rialto Bldg.
Havana, Cuba—Apartado 2507

FLOATING *for working storage* **WIGGINS ROOFS** **BREATHER** *for standing storage*

OW-8-24-Gray

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August 4	592,150	103,000	610,050	133,500	41,000	87,500	113,500	81,450	642,000	2,404,150	16,829,050
August 11	604,600	102,750	592,350	130,600	40,500	87,900	113,000	80,800	636,700	2,389,200	16,704,400
August 18	661,450	102,350	602,550	130,250	40,200	87,450	113,500	71,350	635,400	2,444,500	17,111,500
Increase	56,850	.....	10,200	.....	.....	.....	500	.....	.....	55,300	387,100
Decrease	.....	400	.....	350	300	450	.....	9,450	1,300	.....	.....

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Aug. 18	Aug. 11
Hutchinson County	34,500	33,300
Carson County	6,700	6,700
Gray County	20,500	20,200
Wheeler County	700	950
Others	750	550
Total	63,150	61,700

NORTH TEXAS

Archer County	20,200	20,350
Burkburnett	9,900	9,750
Electra	13,300	13,500
Iowa Park-KMA	3,800	3,900
Montague and Cocke Cos.	11,000	10,750
Wilbarger	35,000	36,000
Others	650	600
Total	93,850	94,850

WEST CENTRAL TEXAS

Brown County	11,950	12,100
Callahan County	3,600	3,500
Coleman County	3,500	3,450
Eastland-Desdemona	7,000	7,200
Jack County	1,800	1,800
Palo Pinto County	450	450
Shackelford County	10,550	10,650
Stephens County	7,100	7,000
Throckmorton County	900	950
Young County	8,000	7,750
Others	600	600
Total	55,450	55,450

WEST TEXAS

Crane-Upton Counties	61,300	62,600
Crockett County	3,050	3,200
Howard County	9,300	5,100
Jones County	1,800	1,700
Mitchell-Scurry Cos.	3,100	3,200
Pecos County	68,700	67,750
Reagan County	18,200	18,300
Winkler County	177,000	170,250
Others	1,500	1,500
Total	343,950	333,600

EAST CENTRAL TEXAS

Corsicana-Powell	10,400	10,500
Currie	450	450
Mexia	6,850	6,900
Nigger Creek	1,000	1,000
Richland	550	550
Wortham	1,650	1,700
Total	20,900	21,100

SOUTHWEST TEXAS

Dale	1,200	1,150
Laredo District	8,700	8,800
Luling	13,250	13,500
Lytton Springs	1,000	1,100
Somerset	700	700
Others	400	400
Total	25,250	25,650
Total Tex. (Outside Gulf Coast)		592,350

TEXAS GULF COAST

Barbers Hill	600	600
Batson	1,400	1,400
Big Creek	4,500	3,700
Blue Ridge	6,500	6,300
Boling	2,000	2,100
Damon Mound	700	800
Goose Creek	6,800	6,800
Hull	10,300	11,800
Humble	1,350	1,400
Orange County	3,600	3,700
Pierce Junction	10,150	10,500
Saratoga	1,000	1,050
Sour Lake	3,300	3,400
South Liberty	3,800	3,600
Spindle Top	38,600	37,700
West Columbia	7,950	8,150
Others	3,000	3,400
Total	105,550	106,450
Texas, total	708,100	698,800

OKLAHOMA

North Braman	3,000	3,000
South Braman	1,450	1,450
Blackwell	3,450	3,450
Hubbard	2,600	2,650
Thomas	1,300	1,350
Tonkawa	13,050	13,100
Garber	8,250	8,350
Burbank	29,050	29,000
Osage (outside Burbank)	26,800	26,950
Cushing	19,800	20,000
Yale-Jennings	7,450	7,550
Davenport	1,900	1,900
Bristow Slick	20,750	20,950
North Okmulgee	14,700	14,700
Lyons Deaner	5,800	5,850
Cromwell	9,250	9,450
Papoose	4,150	4,150
Wewoka	5,650	5,650
Seminole	48,800	50,200
Bowlegs	54,800	55,950
Searight	13,350	12,850
Little River	90,950	45,300
Earlsboro	79,750	77,250
Duncan District	7,750	7,850
Graham	5,250	5,350
Fox	1,650	1,650
Healdton	14,000	14,100
Hewitt	9,650	9,700
Scholem Alechem	15,600	15,800
Pearson	3,500	3,750
St. Louis	63,550	50,600
Allen	21,450	21,400
Others	53,000	53,350
Total	661,450	604,600

KANSAS

Greenwood County	28,250	28,500
Florence-Covert	1,000	1,000
Peabody-Ebling	3,200	3,250
Eldorado-Towanda	12,800	12,850
Augusta-Fox Bush	3,350	3,350
Rainbow Bend	1,550	1,550
Russell	3,850	3,950
Churchill	9,200	4,450
Oxford	10,150	10,050
Others	29,000	28,800
Total	102,350	102,750

CALIFORNIA

Santa Fe Springs	38,000	38,000
Long Beach	192,000	194,000
Huntington Beach	52,500	52,000
Torrance	17,700	17,700
Dominguez	11,000	11,000
Rosecrans	6,000	6,000
Inglewood	29,700	29,700
Midway-Sunset	74,500	74,500
Ventura Avenue	52,500	53,000
Seal Beach	31,000	31,500
Others	130,500	129,700
Total	635,400	636,700

NORTH LOUISIANA

	Aug. 18	Aug. 11
Homer	4,350	4,350
Haynesville	5,950	5,950
Caddo Light	9,400	9,650
Caddo Heavy	3,250	3,150
DeSoto-Red River	4,000	4,050
Elm Grove	550	600
Bellevue	750	750
Cotton Valley Light	*	750
Cotton Valley Heavy	4,500*	3,800
Urania	6,850	6,850
Pleasant Hill	600	600
Totals North Louisiana	40,200	40,500

*Cotton Valley light and heavy combined.

LOUISIANA GULF COAST

Bayou Boullion	500	600
East Hackberry	4,650	4,050
Edgerly	1,050	1,050
Evangeline	1,050	1,100
Lockport	3,650	3,450
Sorrento	1,100	1,100
Sulphur Dome	3,400	3,400
Sweet Lake	4,100	3,950
Vinton	4,400	4,450
Others	800	1,000
Total Louisiana Gulf Coast	24,700	24,150
Louisiana Total		64,650

ARKANSAS

El Dorado	5,250	5,250
Champagnolle	13,250	12,950
Smackover Light	7,400	7,550
Smackover Heavy	57,200	57,800
Stephens	1,050	1,050
Nevada	1,950	1,250
Lisbon	1,250	1,950
Others	100	100
Total	87,450	87,900

MOUNTAIN STATES

WYOMING

Salt Creek	30,000	38,100
Grass Creek	2,500	2,400
Elk Basin	950	950
Big Muddy	2,750	2,700
Lost Soldier	3,900	4,000
Rock River	2,750	2,700
Lance Creek	550	550
Others	7,350	8,350
Total	50,750	59,750

MONTANA

Cat Creek	1,700	1,700
Sunburst	8,300	8,300
Others	100	100
Total	10,100	10,100

COLORADO

Moffats (Craig)	750	1,150
Fort Collins	2,400	2,600
Florence	1,050	1,350
Others	3,300	2,900
Total	7,500	8,000

NEW MEXICO

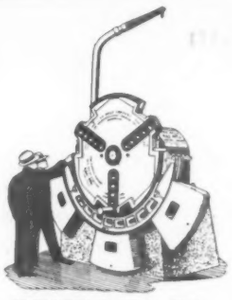
Table Mesa	350	200
Artesia	1,100	1,100
Hogback	400	400
Rattlesnake	950	1,050
Others	200	200
Totals	3,000	2,950
Total Mountain States	71,350	80,800

EASTERN STATES

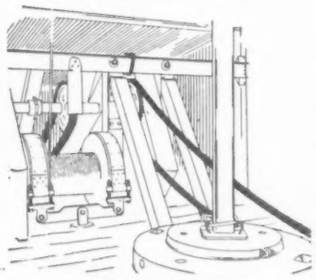
(Inculding Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	113,500	113,000

PRODUCTION SUMMARY

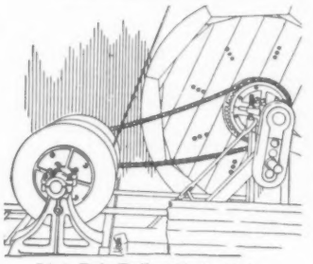
East of Rockies		1,671,700
United States	2,444,500	2,389,200



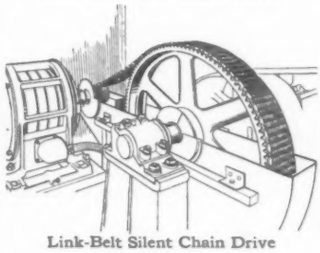
RUF-NEK Pumping Unit



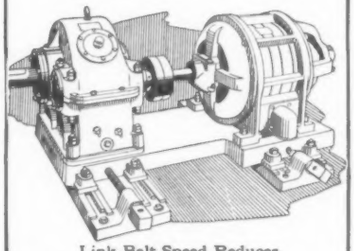
Link-Belt Rotary Chain



Link-Belt Roller Chain Drive



Link-Belt Silent Chain Drive

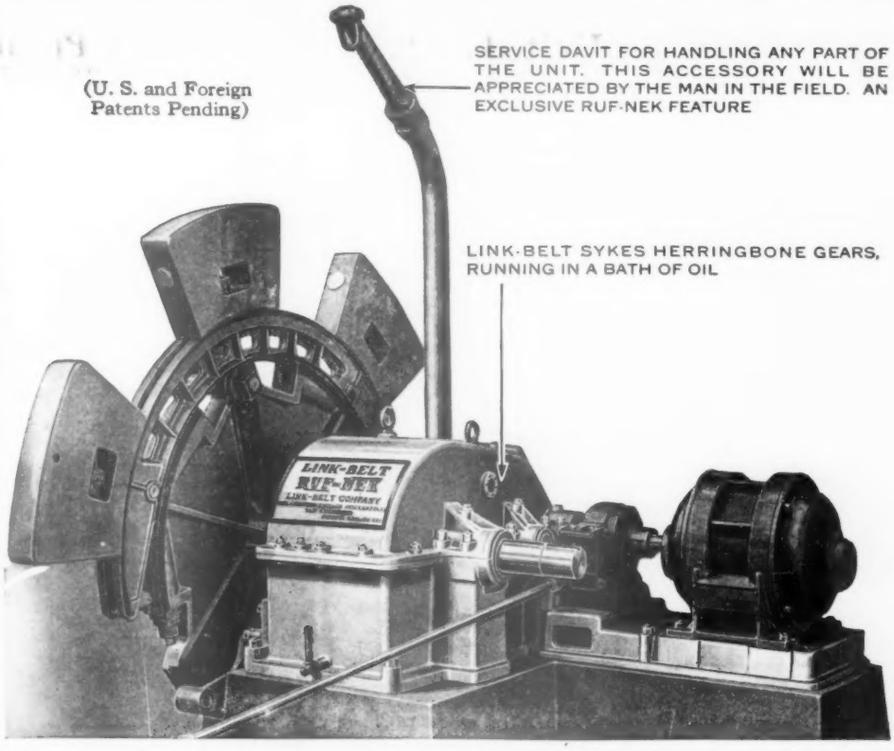


Link-Belt Speed Reducer

(U. S. and Foreign Patents Pending)

SERVICE DAVIT FOR HANDLING ANY PART OF THE UNIT. THIS ACCESSORY WILL BE APPRECIATED BY THE MAN IN THE FIELD. AN EXCLUSIVE RUF-NEK FEATURE

LINK-BELT SYKES HERRINGBONE GEARS, RUNNING IN A BATH OF OIL



RUF-NEK

The Pumping Unit for Oil Wells

THE Ruf-Nek is a unique pumping unit for oil wells, that will drive the draw works, a washout pump, or a small rotary, without additional equipment.

A counterweight mechanism is provided that permits adjustment of the counterweights, so as to produce any desired counter-balancing effect. It is thus possible to balance the pumping load accurately for any and all conditions.

The counterweight mechanism can be quickly and easily detached when unit is used for servicing a well.

The Ruf-Nek is designed, built and backed by Link-Belt. Send for a copy of Book No. 780.

LINK-BELT COMPANY 3487

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Distributors: Texas Iron Works Sales Corporation; The Parkersburg Rig and Reel Co.

LINK-BELT

Equipment for the Oil Industry

Say you saw it in The OIL WEEKLY

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	15	5	5	3	1	1	9	1	1,396	540
California	16	13	14	11	..	..	2	2	5,600	9,270
Illinois	3	3	2	3	..	..	1	..	36	27
Indiana	12	1	4	1	2	..	6	..	115	100
Kansas	15	13	4	2	3	6	8	5	540	125
Kentucky	25	20	14	10	1	1	10	9	579	175
Louisiana	11	6	6	1	2	3	3	2	1,935	15
Michigan	2	2	2	2	..	..	..	..	75	140
Ohio	56	45	19	13	23	16	14	16	925	162
Oklahoma	54	65	36	28	4	8	14	29	18,305	2,164
Pennsylvania	..	1	..	..	..	1	..	..	..	..
Tennessee	1	..	1	..	..	..	..	..	500	..
Texas	132	103	80	55	11	4	41	44	165,234	77,416
West Virginia	12	19	2	5	8	9	2	5	28	58
Total	354	296	189	134	55	49	110	113	195,268	90,192
Increase this week	58	..	55	..	6	..	..	..	105,076	..
Decrease this week	..	..	..	..	..	..	3	..	..	..

CALIFORNIA

Company, well and Location	Initial Production Bbls.	Depth
BELRIDGE—		
Berry Oil Co., No. 87, 30-28-2..1...	50	683
BREA-OLINDA—		
Union Oil Co., Morse 8	300	3510
CAT CANYON—		
Stoddard Syn., No. 1, 30-9-32	300	3510
DOMINGUEZ—		
Union Oil Co., Callender 23	200	4329
HUNTINGTON BEACH—		
Belle of Montebello, Van 8	100	4857
Colonial Oil Co., No. 2	110	2082
R. T. Leonard, Topeka 1	40	2140
LONG BEACH—		
California-Eastern Oil Co., Capitol 1	400	6941
McKeon Drill. Co., Thorn 1	100	6424
Rio Grande Oil Co., Municipal "A"-3	1000	7093
Shell Co., Nicholson 5	1600	7805
Shell Co., Stratton 3	800	7350
MT. POSO—		
Petroleum Securities Co., G. V. 1, 15-27-28	300	1496
Signal Gasoline Syn., No. 3, 27-27-28	300	1638
ROUND MOUNTAIN—		
General Pet. Corp.'s Conry 1, 30-28-29	*	1775

OKLAHOMA

Company, well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Cox & Hamon, Vorhees 4	870	2569
CREEK COUNTY—		
Prairie, Coachman 3, (owdd)	425	2821
Devonian Oil Co., Richardson 1	50	3519
Skelly, Bruner 1	40	3874
Dixie Drilling Co., Pahahney 2	¶5	1521
Standsbury and Young, Snyder A-1	12	2654
Madden, Madden et al, Farmer 2	*	3481
Nancybell Oil Co., Weaver 1-A	*	1806
Kirschner et al, Drew 1	*	2395
Papoose Oil Co., Tiger 1	*	3192
GRANT COUNTY—		
Tom Palmer et al, Lupton 1	*	4612
KAY COUNTY—		
Carter Oil Co. et al, Shimp 7 (owdd)	35	2320
LOGAN COUNTY—		
Ramsey Bros., Hopkins 1	*	4387
MARSHALL COUNTY—		
E. L. Smith, Null 1	125	615
Humble O&R Co., Sullivan 5	8	530
MUSKOGEE COUNTY—		
J. Philpin et al, Harris 2	*	1190
O. R. Tautanhahn, Callahan 1-A	*	1150
OKFUSGEE COUNTY—		
Atlantic O. P. Co., Berryhill 1	25	1476
Champlin O&R Co., Tucker 5	¶4	2962
Producers Oil Co., Barnett 2	200	2272
Texas, Tiger 3	6	1741
OKMULGEE COUNTY—		
F. D. Misener, Tolbert 2 (owdd)	5	1755
Henry Oil Co. et al, Friday 1	*	2595
Kingwood Oil Co. et al, Bright 1	*	2757
OSAGE COUNTY—		
Kewanee O&G Co., No. 10	45	2960
Link Oil Co., No. 5	70	2191
Kewanee O&G Co., No. 13	72	2840
Lewis Prod. Co. et al, No. 1	125	2990
PAWNEE COUNTY—		
McMann O&G Co., Samples 1	21	1990
PAYNE COUNTY—		
Garber, Pulse and Floyd, Widdoes 1	*	1200
POTTAWATOMIE COUNTY—		
Magnolia, Ship 2	40	4200
Magnolia, Singletary 1	206	3910
Gypsy, Cecil 6	285	3880
McGee 3	385	4358
Sinclair, Blandin 2	465	4275
Mid-Kansas, Gesselman 1	2462	4226
Prairie, Desmond 2	985	4260
Prairie, Ellison 2	380	4330
Magnolia, Bullock 1	*	4210
SEMINOLE COUNTY—		
Gypsy, Sango 7	1720	4365
Gypsy, Mosar 1	960	4406
Gypsy, Barkus 1	2400	4215
Gypsy, Davis 1	*	4150
T. B. Slick, Jones 1	248	4400
Blackwell O&G Co., Baker 3	700	4537
Carter, Jackson 3	1905	4215
Pure, Harjo 2	2785	4212
Blackwell O&G Co., Fleet 1	¶18	2610
STEPHENS COUNTY—		
Clark & Cowden, Davidson 1	180	3020
Magnolia, Burke 3	18	1680
Magnolia, Burke 9	27	1671
Roy Carter, Simpson 2	20	1670
Insligs and Russell, Perry 1	*	1905
TULSA COUNTY—		
Hall et al, Hooks 1	¶1	1352

KANSAS

Company, well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
Merriman & Skelly, Winters 1	*	4530
BUTLER COUNTY—		
Blakesley & Wentz, Cornelius 1	*	2734
CHAUTAUQUA COUNTY—		
Elmwood Oil Co., Hilton 3	¶1	1274
COWLEY COUNTY—		
Kentucky Nitrogen & Oxygen Co., Townsite 4	¶2	999
ELK COUNTY—		
Hood et al, Call 1	*	lcn
GREENWOOD COUNTY—		
Murphy et al, Olson 4	50	2174
LYON COUNTY—		
Tulsa Oil Co. et al, Gasche 1	*	2089
MARION COUNTY—		
Tidal Oil Co., Graham 1	*	2801
Phillips Pet. Co., Rezcinek 2 (owdd)	*	3298
MEAD COUNTY—		
Blackwell O&G Co., Lilly 1	*	3298
RUSSELL COUNTY—		
Keys Pet. Co., Mermis 8	240	3316
Mid-West Explo. Co., Austin 34	*	lcn
SUMNER COUNTY—		
Prairie, McIrvin 1	50	3459
Champlin O&R Co., Latta B-4	¶1-3	1929

SOUTHEASTERN OHIO

Company, well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
McKay O&G Co., McKay 4	¶½	....
McKay 5	¶¾	....
Dinsmoor Est., Rowland 2	¶½	....
H. H. Henning & Co., Huntsman 4	*	....
Chauncey Mann & Co., Rinard 1	2	....
Ohio Fuel Gas Co., Sheedy 1	¶½	....
Lynch 1	¶¼	1211
MORGAN COUNTY—		
Bauman & Co., Porter 2	¶½	1612
Ohio Fuel Gas Co., Miller 3	¶¾	1450
MONROE COUNTY—		
Shay & McMullen, Wilhelm 9	¶½	1877
NOBLE COUNTY—		
Local Oil Co., Thompson 4	¶¼	840

CENTRAL OHIO

Company, well and Location	Initial Production Bbls.	Depth
ATHENS COUNTY—		
Ohio Fuel Gas Co., Black Diamond Coal 7	¶¼	885
Golden 1	*	1887
Linscott 1	¶¾	1412
Smith & Thomas, Curtis 1	¶¼-2	1386
The Logan Gas Co., Warner 3	¶¼	1728
Guthrie 1	*	1624
PERRY COUNTY—		
The Logan Gas Co., Spohn 1	60	2831
Shimwell & Co., Neff 1	50	3550
Wehrle O&G Co., Cooper-Opie 1	103	3521
Hull & Co., Star Pottery Co. 1	38	3507
Meredith O&G Co., Rose 1	7	3226
LICKING COUNTY—		
Hope Construction & Refg. Co., Stuart 2	75	....
Robinson-Johnhiser Drg. Co., Mack 2	75	2935
H. C. Farmer, Wright 3	15	....
Rugg & Egan, Boyd 1	¶¼	729
Moore & Adams, Smith 1	*	806
KNOX COUNTY—		
Poorman & Co., Foss 9	¶¼	660
Upham Gas Co., Davis 1	¶¼	2632
J. B. Reed & Co., Simmons 1	*	680
Upham Gas Co., Adrian 1	¶½	3035
East Ohio Gas Co., Strobel 2	¶¼	....
HOCKING COUNTY—		
The Preston Oil Co., Anthony 1	35	....
Hedge O&G Co., Hedge 1	10	....
Bell & Scholl, Hartzel 1	*	2962
MEDINA COUNTY—		
Ohio Fuel Gas Co., Karst 1	*	....
Rowe 3	¶½	....
Hulse & Kundtz, Golding 2	¶½	....
GUERNSEY COUNTY—		
Eastern Carbon Black Co., Micha 6	25	....
JACKSON COUNTY—		
Ohio Fuel Gas Co., Randcliff 1	¶¼	2675
ASHLAND COUNTY—		
The Logan Gas Co., Sharick 1	¶1¼	....
COSHOCTON COUNTY—		
East Ohio Gas Co., Shellhorn 2	¶3	3295
Nyhart 4	¶¼	....
MEIGS COUNTY—		
Cabin Oil Co., Klein 1	*	....
PORTAGE COUNTY—		
Columbia Chemical Co., Wise 1	*	4660

NORTHWESTERN OHIO

Company, well and Location	Initial Production Bbls.	Depth
SENECA COUNTY—		
J. H. Murphy & Son, Swartzmiller 3	350	1390
Russell & Telling, Harrison 1	*	....
Robert Maybier & Co., Kimmett 1	*	1495
E. M. Reiser, Chaney 1	*	1563
Hutton & Pfeister, House 1	*	1508
ALLEN COUNTY—		
Neely & Nolden, Bassett 1	25	1365
Metzger Bros., Metzger 3	12	1204
VAN WERT COUNTY—		
N. T. Stoudt & Co., Rickards Bros. 5	15	1236
MERCER COUNTY—		
Gailey Myers, Saalman 4	11	1132
AUGLAIZE COUNTY—		
Bachelor Oil Co., Seibert 14	15	....
WOOD COUNTY—		
Lantz, Schulte & Co., Schulte 1	*	1300

Axelson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps) etc.

Beaumont Iron Works Company
Dreadnaught Rotary Equipment Water-Cooled Drawworks, Pumping Hoists, Traveling Blocks, etc.

Donovan Boiler Works
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Frick-Reid Service Belting
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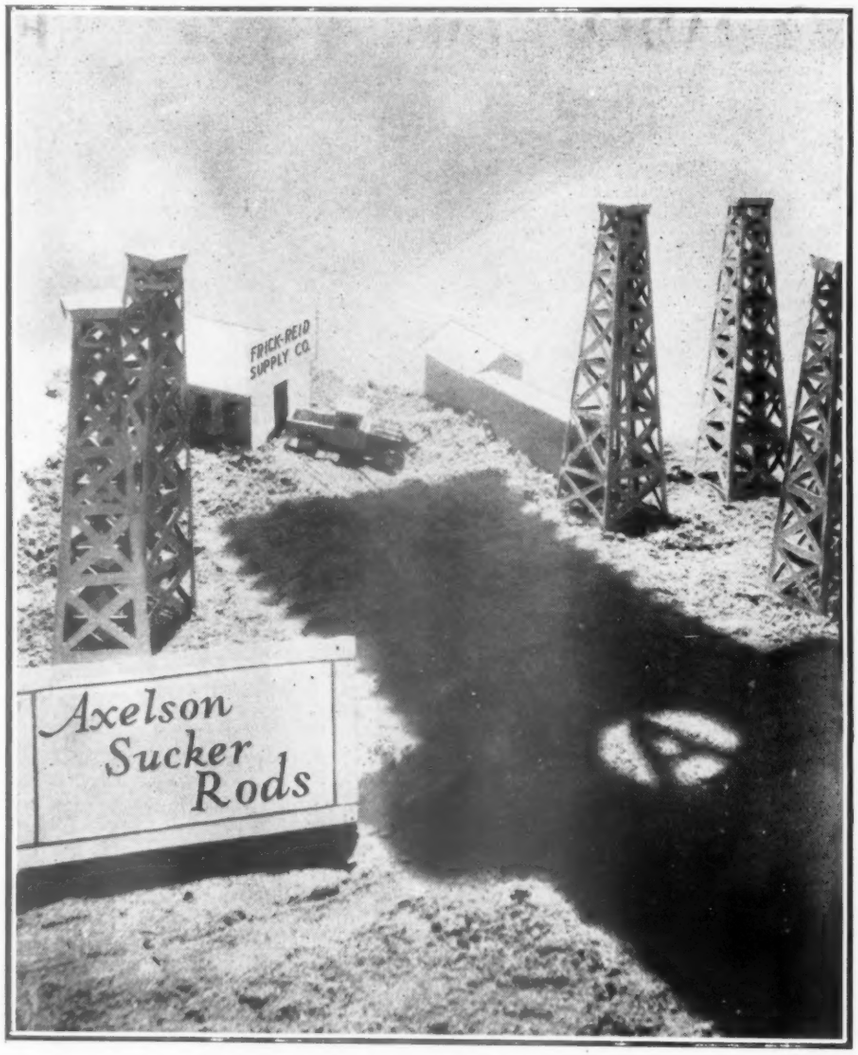
Engineering Crews
for the installation of Pumping Powers and related equipment.



Oil Men all over the world take off their hats to Axelson Sucker Rods. They are the very personification of the things they admire most in equipment: Efficiency, Dependability, Standardization.

Axelson A.P.I. and Axelson Standard Sucker Rods

FRICK REID SUPPLY CORPORATION

Tulsa, Okla. Pittsburgh, Pa.

STORES EVERYWHERE

WEST VIRGINIA

Company, well and Location	Initial Production Bbls.	Depth
PUTNAM COUNTY—		
P. G. Lynch, Stricklin 1	¶¼	
United Fuel Gas Co., Lewis 1	¶¼	
Hamilton Gas Co., Young 1	*	
ROANE COUNTY—		
Grow & Dever, Morford 1	¶¼	
Chartiers Oil Co., Shaffer 1	¶½	
CALHOUN COUNTY—		
C. W. Lewis & Co., Smith 1	¶1¼	
Ohio Fuel Oil Co., Morris 1	¶1½	
RITCHIE COUNTY—		
S. W. Young, Snyder 1	20	
WOOD COUNTY—		
Henderson Oil Co., Wharton 31	8	
CABELL COUNTY—		
Britton Engineering Co., Marshall 1	¶¼	
LINCOLN COUNTY—		
Cambridge Gas Co., Lucas 1	¶½	
GILMER COUNTY—		
Satterfield & Co., Reeser 1	*	

KENTUCKY

Company, well and Location	Initial Production Bbls.	Depth
BARREN COUNTY—		
Esslinger Oil Co., Morton 6	3	510
Morton 7	40	500
Wood Oil Co. Ind., Sumers 8	12	624
J. J. Sayer, Winn 4	4	544
Moore & Scott, Hall 20	*	562
A. Mathews, Smith 1	*	260
Kratz & Pearson, Sabens 1	*	
Hunt, Leach & Co., Williams 1	*	
CALDWELL COUNTY—		
Caldwell O&G Co., McDowell 1	5	
OWSLEY COUNTY—		
Petroleum Explo. Co., Venable 1	¶1½	
ALLEN COUNTY—		
Mid-Southern Oil Co., Woods 24	*	306
WARREN COUNTY—		
Wood Oil Co., Inc., Cardwell 1	*	1129
CLAY COUNTY—		
Petroleum Explo. Co., Baker 1	*	
DAVIESS COUNTY—		
C. T. Johnson & Co., Petrie 3	20	
L. C. Young & Co., Parks 3	15	
OHIO COUNTY—		
Daly & Lowman, Hamilton 7	150	
James C. Ellis, Weller 27	100	
Weller 28	100	
Young & Lee, Ezell 8	40	
White Plains O&G Co., Howard Hrs 9	25	465
Claypool & Co., Ralph 3	30	450
O. Jenkins & Co., Brown Hrs 4	35	425
Hupp, Duff & Co., Smiley 1	*	
Unknown Parties, Oller 1	*	
A. M. Myers, Roach 1	*	650

TENNESSEE

Company, well and Location	Initial Production Bbls.	Depth
CLAY COUNTY—		
Ava O&G Co., Davis 1	500	510

INDIANA

Company, well and Location	Initial Production Bbls.	Depth
GIBSON COUNTY—		
Mann & Hyber, Page 1	¶1¼	
Texana Oil Co., Mitchell 1	¶2½	
Burton 1	*	
DAVIESS COUNTY—		
Phipps, Blosser & Co., Allison 4	*	
Branes & Aderns, Hammersley 1	*	
Ruble & Ollier, Morgan 1	*	
VIGO COUNTY—		
Siosi Oil Corp., Riggs 11	45	2205
Riggs 12	45	2199
SPENCER COUNTY—		
Packard Oil Co., Carlton 1	15	
SULLIVAN COUNTY—		
Billman & Co., Davis 2	*	835
MADISON COUNTY—		
Myron Reynolds, Reynolds 1	*	876
MARTIN COUNTY—		
Phipps, Blosser & Co., Prelemier 1	*	783

ILLINOIS

Company, well and Location	Initial Production Bbls.	Depth
LAWRENCE COUNTY—		
The Ohio Oil Co., Seed 5	35	1301
Phipps, Blosser & Co., DesBeouf 2	*	2095
CRAWFORD COUNTY—		
Frost Oil Co., Mulvane Heirs 2	1	1024

MICHIGAN

Company, well and Location	Initial Production Bbls.	Depth
MUSKEGON COUNTY—		
Bowers & O'Keefe, Hower 1	50	
Wolverine Dev. Co., Workman 2	25	

ARKANSAS

Company, well and Location	Initial Production Bbls.	Depth
UNION COUNTY (Champagnolle)		
J. E. Crosbie, H. N. Brown 1, 6-17-14	*	3354
O. W. Estes, Rowland 2, 14-17-14	*	3368
Garrett-Modisette Drlg. Co., Pyron 1	*	3059
Hollyfield & McFarlane, Kelly 1, 9-17-14	175	3223
Lion O. & R. Co., Rowland 4, 15-17-14	*	2730
Union Sawmill 1, 6-17-13	4-400	2880
Sinclair 4, 16-17-14	20	2768
Oilwell Corp., Ezzell 2, 3-17-14	*	3283
W. H. Perdue B-2, 10-17-14	*	3300
Skelly Oil Co., W. H. Perdue 4, 10-17-14	91	3267
W. H. Perdue 5, 10-17-14	*	3363
Ohio Oil Co., Carroll 2, 6-17-13	700	2990
UNION COUNTY (El Dorado)—		
Humble, Latark Fee 1, 3-16-15	30	1965
W. R. Keever, Ezzell A-6, 12-17-15	*	2136
OUACHITA COUNTY (Calhoun)—		
Frank B. Wood, Tr., Spahr 3, 35-15-16	*	2418

NORTH LOUISIANA

Company, well and Location	Initial Production Bbls.	Depth
CADDO PARISH (Pine Island)—		
Dixie Oil Co., Dillon 94, 14-21-15	25	1714
WEBSTER PARISH (Cotton Valley)—Woodley Pet. Co., Lewis 1, 15-21-10	4-140	4697
WEBSTER PARISH (Sarepta)—		
Bethany O. & G. Co., O'Brier 1, 31-23-9	8	2650
Bruce Richardson, C. O. Bailey 1, 29-23-9	8	2754

SOUTH LOUISIANA

Company, well and Location	Initial Production Bbls.	Depth
EVANGELINE—		
Ratcliff Oil Co., Martin 11	125	1680
EDGERLY—		
W. T. Burton, Koonce 1	*	3700
LOCKPORT—		
Vacuum-Gulf, Fee A-2	100	3650
VINTON—		
Vinton Pet. Co., Vincent 9	45	2115

TEXAS

TEXAS GULF COAST

Company, well and Location	Initial Production Bbls.	Depth
BATSON—		
Ada Belle Oil Co., Honeymoon 121	8	480
Paraffine Oil Co., Paraffine 76	6	490
East Batson Oil Co., State Land 15	20	1130
BLUE RIDGE—		
South Texas Prod. Co. (H. R. Cullen), Blakely 4	950	3400
Davison 4	1000	3450
Lafferty 2	1200	4150
Navarro Oil Co., Robinson A-5	130	3600
Sinclair O. & G. Co., Davison 4	2700	3490
HULL—		
Republic Prod. Co., Dolbear 123	25	2300
Gulf, Phoenix Dev. Co. 61	70	3450
ORANGE—		
Sinclair O. & G. Co., Leon 5	10	3620
PIERCE JUNCTION—		
Rio Bravo Oil Co., Bender 9	¶	3390
Settegast A-4	635	3700
SOUR LAKE—		
Humphreys Oil Co., Blum 1	3	920
Blum 1½	5	630
SOUTH DAYTON—		
Humble, Welder 1	125	3820
SOUTH LIBERTY—		
The Texas Co., Staiti 12	50	3650

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas-casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches lcn—location; m—milling; n, s, e. w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—unde-reaming; wo—workover; wosr—waiting on standard rig.

SOUTHWEST TEXAS

Company, well and Location	Initial Production Bbls.	Depth
WEBB COUNTY—		
Houston Oil Co., Yeager-Stroman A-1	¶30	2104
O. K. Killam, Bruni 17	50	2177
Bruni 20	200	2179
Magnolia, Yeager-Stroman 6	300	2179
Sun Oil Co., Yeager-Stroman B-2	¶15	2153

EAST TEXAS

Company, well and Location	Initial Production Bbls.	Depth
PANOLA COUNTY (Bethany)—		
Magnolia, Ella Baker 4, B. C. Jordan sur	2	985

NORTH TEXAS

Company, well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Gose & Ridgeway, Ferguson 1	*	1803
Roy I Jones et al, Andrews 1	*	906
Long & The Texas Co., Feldhauser 1	*	1504
Looney & King, King 1	*	1365
Pandem Oil Corp., Hudson 11	10	1156
Staley-Wynne, Abercrombie-Taylor 1	*	1550
Stump & Chilson, Perkins 1	*	1854
Stump & Hines, Wallace 2	20	1007
The Texas Co., Rogers 11	10	1275
Griffth 4	20	1005
COOKE COUNTY—		
A. D. Robinson et al, Koelzer 7	5	1336
ELECTRA—		
Mrs. Laning et al, McCarty 3 (Lease No. 2)	†	1742
John O'Neil et al, Rio Bravo Fee 29	*	1550
K-M-A AND IOWA PARK—		
King-Roy Co., Mitchell 8-B	10	1424
W. B. Omohundro et al, Pace 15	125	1232
Stump & Co., Chilson 1, (Lot No. 21)	*	1854
MONTAGUE COUNTY—		
Pure Oil Co., Keck 5-A	25	818
THROCKMORTON COUNTY—		
McCurdy et al, Reynolds 2	*	1400
WILBARGER COUNTY—		
Derby Oil Co., Waggoner 1	100	1903
Empire Gas & Fuel Co., Waggoner 1-B	*	2575
Fain-McGaha Oil Corp., Waggoner 1-Y	125	2391
John O'Neil et al, Waggoner 1-A	*	2420
Petroleum Prod. Co., Waggoner 5-A	80	2447
Pigg et al, McCrary 1	*	2654
Shaw Oil Co., Waggoner 1-B	*	2476
Simms Oil Co., Waggoner 3	175	1877
YOUNG COUNTY—		
Allen et al, Simms 1	*	835
Atlantic Oil Prod. Co., Boone 1	*	500
Atlantic & Ginsburg, Bratcher 1	*	601
Kleiner et al, Langston 14	25	583
Langston 15	75	575
McElroy et al, White 1	*	755
Mook-Texas Oil Co., Davis 3	25	573
Republic Prod. Co., Roden 1	10	713
Shappell Oil Co., Garrett 2	20	551
Shaw et al, True 1	*	3310
Willis & Gatewood, Gray 1	*	750

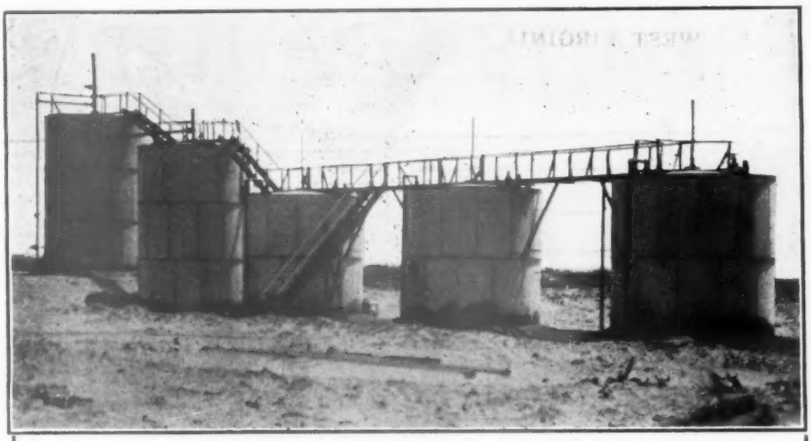
CENTRAL WEST TEXAS

Company, well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Anchor Oil Co., Taylor 2	*	2056
Bradstreet & Mahlstedt, Eubanks 4	25	1300
Charter Oil Co., Byler 3-B	215	1341
Cranfill & Reynolds, Eubanks 11	125	1236
Duffey et al, Hill 1	*	1337
Forest Oil Corp., Moore 5	140	1269
J. H. Green et al, Hill 1	10	845
Gutzman et al, Stanley 3	10	433
Stanley 4	4	433
Stanley 5	10	434
Redmond et al, Conway 1	*	650
CALLAHAN COUNTY—		
Manhattan Oil Co., Smart 1	*	865
Sanger Oil Co., Ferguson 1	*	2020
Thompson & Loomis, Seale 1	*	1009
Tidal Oil Co., Seale 1	*	781
COLEMAN COUNTY—		
Bebaut & Sullivan, Kirkwood 1	¶4½	1401
Byrd & Goldston, Moody 2	200	1870
Derby Oil Co., Jennings 6	25	1143
Manhattan Oil Co. & Owens, Shaw 1	*	2010
Nolan & Pfile, Pearce 1	*	2254
EASTLAND COUNTY—		
Butler et al, Green 1	*	3920
Natures Treasure Oil Co., Qualls 1	*	3983
Panhandle Ref. Co., Hightower 27	25	1218

Company, well and Location	Initial Production Bbls.	Depth
McCULLOCH COUNTY—		
Bryant & Wakefield, Barton 1	¶4½	935
Roth & Faurot, Smith 1	¶2	1625
SHACKELFORD COUNTY—		
Atlantic O. P. Co., & Heltzel, Reynolds 1	*	1286
Austin et al, Compton 1	*	720
Roeser-Pendleton & Marland Prod. Co., Cook 4-A (Sec. 61)	*	1610
W. I. Cook 7-A (Sec. 61)	150	1356
W. I. Cook 8-A (Sec. 61)	175	1375
W. I. Cook 24-C (Sec. 60)	*	1325
W. I. Cook 26-C (Sec. 60)	75	1205
W. I. Cook 27-C (Sec. 60)	100	1191
STEPHENS COUNTY—		
Eidson et al, Smith 2	¶1	2240
TEXAS PANHANDLE		
GRAY COUNTY—		
Herrogan Oil Co., J. W. Lester 1	1000	2501
Parton et al, J. S. Morse 1	20	2675
HANSFORD COUNTY—		
Hope Oil Co., G. B. Coots 1	*	4585
HUTCHINSON COUNTY—		
Winrod Oil Co., E. Cooper 1	40	3177
WHEELER COUNTY—		
Clark et al, M. Purcell 3	¶18	1710
J. C. Neudigate et al, G. W. Sitter 1	¶26	2140
Wisch Kamper et al, I. Close 1	¶5	1731
WEST TEXAS		
CRANE COUNTY—		
Gulf Prod. Co., McElroy 53	260	2918
HOWARD COUNTY—		
F-H-E Oil Co. & Moody Corp., Roberts 8-E	350	1310
Gulf Prod. Co., Clay 2	100	1897
Merrick & Lamb, Clay 4	110	1870
Owen-Sloan Oil Co. & Cosden & Co., Roberts 6	2400	3017
JONES COUNTY—		
Hucony Gas Co. & Atkinson-Sandefer, Tiner 2	350	2549
Phillips Pet. Co., Sharp 2	175	2535
PECOS COUNTY—		
Gulf Prod. Co., Yates 13	16,500	1280
McMan O. & G. Co., M. A. Smith 4-B	2160	1305
Roxana Pet. Corp., Tippett 9	10,400	1623
WINKLER COUNTY—		
Atlantic Oil Prod. Co., Hendrick 4-G	15,000	2715
Gulf Prod. Co., Hendrick 23	25,920	2790
Independent O. & G. Co., Grisham-Hunter 6-B	2400	2818
Murchison Oil Co. & Cranfill Bros., Grisham-Hunter 2	10,000	2710
Grisham-Hunter 2-B	20,000	2750
C. W. Murchison & T. P. Lee et al, Hendrick 1-I	15,000	2897
Roxana & Texas Co., Cowden 2-A	800	3052
Cowden 3-A	2160	2937
Skelly Oil Co., Hendrick 11	21,600	2725
Southern Crude-Dixie Oil Co., Hendrick 4-B-T-67	450	3025
Southern Crude-R. A. Westbrook, Hendrick 3-A-T-88	840	2920
Hendrick 11-M-T-88	2400	3004
Hendrick 14-M-T-88	2230	2925
Hendrick 2-K-T-88	3120	2854

Ceremonies Open Line

Kemmerer, Wyo.—Formal ceremonies attendant upon the opening of the pipe line from the LaBarge field to railhead at Opal were held here on August 18. Various company officials and local citizens were entertained by the Lion's Club at a banquet in the evening, following appropriate ceremonies in the field and a drive back to Kemmerer by way of Opal. Among the guests of the club were R. S. Ellison, vice president and general manager of the Midwest Refining Company, D. W. Greenburg, publicity director for the company, G. M. Vandaveer, superintendent of the company's pipe line department, and George H. Jaques, superintendent of production for the company.



Three five hundred barrel and two special seven hundred fifty barrel Maloney Flow Tanks used by the Southern Crude Purchasing Co., Ida Hendricks Farm, Winkler County, Texas.

ASSURED LONG LIFE

Buyers can definitely count on remarkably long service from MALONEYS because these tanks are manufactured of the most durable sheet steel on the market, and are built strong enough to withstand severe strains. Heavy gauge Keystone Copper Steel—rigid steel channels reinforcing all seams—adequate deck support by means of heavy steel angles—our special bolts of 90,000 pounds tensile strength—are features which impart *assured* long life to MALONEYS.

Our patented "crimp" at seams and joints—together with the use of our superior rubber gasketing and our Gaso cement—render MALONEYS oil, water and gas tight. Cleaning out plates are large and set flush with bottoms. Painting is with Maloney special pearl gray paint. Valve and thief hatch equipment is the very best obtainable.

"Alone in Quality"

MALONEY TANK MFG. CO.

TULSA, OKLA., U. S. A.

Distributors at All Principal Petroleum Points

Sizes: 12 to 10,000 Barrels

Packed in Steel-Bound Crates for Export

Howell Aluminum "3-in-1" Vacuum Pressure Valve and Thief-Hatch —The BEST and LATEST Deck Equipment—POSITIVE Safety

MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MADE OF KEYSTONE COPPER STEEL

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PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Aug. 18	Prev. ious week	Total this month	Total this year	This week last year	This month 1927	Total same date 1927	Year total 1927
Arkansas	..	..	..	256	4	19	245	329
California	33	27	75	678	15	50	878	1,226
Louisiana	8	17	32	448	13	44	459	812
Kansas	8	18	50	676	20	44	665	972
Oklahoma	90	66	244	2,306	47	217	2,745	3,702
Texas	129	164	421	5,070	143	343	6,377	8,665
Mt. States	..	..	..	..	..	..	340	494
Total	268	292	822	9,438	242	717	11,709	16,149

TEXAS

ARCHER COUNTY—Rathke Oil Co., Wichita Falls, Andrews 5, Wm. Spavin sur, 300 ft s of No. 3. Continental Oil Co., Wichita Falls, Parrish 1, Sec 8, Hooper & Wade sur, 1700 ft w of center of e line. Arco Oil Co., Wichita Falls, McCall 6, blk 14, D. C. S. L. sur No. 3, 450 ft from n and e lines; McCall 7, 150 ft from n and 500 ft from e line. Wichita Prod. Co., Wichita Falls, Goldsmith 7, J. L. Anderson sur, 150 ft from n and w lines. Panhandle Ref. Co., Wichita Falls, Prideaux 3, A. Rohus sur, 1050 ft from n and w lines. Kemrow Co., Electra, Campbell 1, blk 1, D. C. S. L. sur No. 3, center. King Royalty Co., Wichita Falls, Rogers 4A, 1600 TE&L sur, 150 ft from s and e lines. Shappell Oil Co., Wichita Falls, Kemp & Kemper 1C, blk 76, W. V. F. L. sur, 450 ft from s and 1175 ft from e line. Sam Kruger et al, Wichita Falls, Turbeville 1, blk 176, McKinney & Williams sur, 150 ft from s and e lines. Texas Co., Wichita Falls, Rogers 11, 1600 TE&L sur, 150 ft from s and w lines; Griffith 4, blk 12, D. C. S. L. sur No. 3, 485 ft from w and 150 ft from s line. R. L. Jones, Olney, Andrews 1, 1803 TE&L sur, 150 ft from s and 450 ft from e line. C. W. Gilliland, Wichita Falls, Niemeyer 2, 2415 TE&L sur, 300 ft n of No. 1. W. C. Young, Archer City, Young 1, blk 127, Club Ranch sur, 150 ft from w and 346 ft from s line. American Ref. Corp., Wichita Falls, Turbeville 14, blk 146, R. Carson sur, 300 ft from w and 450 ft from s line. E. J. Stump & Co., Wichita Falls, Wallace 2, sec 11, D. C. S. L. sur No. 3, 300 ft n of No. 1.

BROWN COUNTY — Amerada Pet. Corp., Cisco, Wise 1, Garcia & Montez sur, 150 ft ne of center of sw line. W. T. Daniel et al, Brownwood, Prentis 1, sec 36, H&TB sur, 150 ft from w and 450 ft from s line. Midwest Explo. Co., Amarillo, George 2, No. 117, M. Q. Cross sur, 315 ft w of No. 1. Kone Prod. Co., Cisco, Hickman B14, 783, T. Benson sur, 300 ft e of No. B13. McLester Oil Co., Eastland, Wooldridge 14, 147, M. B. Gaines sur, 1350 ft from n and 860 ft from e line. Gilman & McMurray, Cisco, Hickman 5A, 783, T. Benson sur, 300 ft n of No. 1. Anna Belle Oil Co., Cisco, Hickman 10, 801, J. McGloin sur, 400 ft w of No. 6.

BASTROP COUNTY—Billie Mayfield, Houston, McCall 1, S. F. Austin sur, 200 ft from w and 800 ft from n line.

BRAZORIA COUNTY — Ferdinand Heine, Jacksonville, Tolar 1, J. E. Groce sur, 1345 ft from n and 1826 ft from e line.

CALLAHAN COUNTY—W. L. Jackson et al, Burkett, Long 1, blk 86, C. C. S. L. sur, 450 ft from n and 170 ft from e line. St. Mary's O. & G. Co., Moran, Pruitt 10, 2287, TE&L sur, 300 ft e of No. 5. Andrews Pet. Corp., San Antonio, Pippen 4, 3167, TE&L sur, 150 ft from s and e lines. Borealis Oil Co., Cisco, Wagley F6, sec 3, D&D Asy sur, 150 ft from n and 700 ft from e line. Sample & Ames, Cisco, Berry 1, W. C. Powell sur, 500 ft w of center of e line.

COLEMAN COUNTY — National Ref. Co., Cleveland, Ohio, Farrell 1, 488, B. Fowler sur, 250 ft from n and e lines. Sterling O. & G. Co., Abilene, Haygood 1, 294, W. Woolsey sur, 200 ft from n and 918 ft from e line. J. P. Dunigan, Breckenridge, Rice 1, sec 91, B. & S. sur, 630 ft from e and 1200 ft from s line. Amerada Pet. Corp., Cisco, Morris 1, Wm. Weber sur, 150 ft from s and e lines. Roth & Faurot, Valera, Terry 2, blk 4, C. C. S. L. sur, 490 ft from s and 790 ft from e line.

CALDWELL COUNTY—Roxana Pet. Corp., Houston, Schafer 1, C. Crenshaw sur, 150 ft from s and e lines; Starcke 1, C. Crenshaw sur, 150 ft from w and 793 ft from s line.. Starcke 2, 300 ft se of No. 1; Starcke 3, 300 ft se of No. 2. U. S. Gas & Oil Co., San Antonio, Walker 1, center.

CLAY COUNTY—F. L. A. Hamilton, Wichita Falls, Wade 2, R. Daily sur, 150 ft n of center of s line. R. W. Lindsey Drilling Co., Graham, Inman 1, W. H. Spotts sur, 300 ft from w and 600 ft from n line.

CRANE COUNTY—Gulf Prod. Co., Fort Worth, Waddell 4, sec 11, blk 25, 2310 ft from n and 330 ft from e line; McElroy 5, sec 200, blk F, CCSD&RGNG sur, 660 ft w of No. 50.

CARSON COUNTY—Empire G. & F. Co., Wichita Falls, Pope 1, sec 242, blk B2, H&GN sur, 990 ft from s and e lines.

CALHOUN COUNTY — B. F. Thompson, Port Lavaca, Thomas 1, J. P. Tilley sur, center.

EASTLAND COUNTY — States Oil Corp., Eastland, Docley 4, sec 5, H&TC sur, Belva Oil Co., Eastland, Texas; Good 4, J. R. Stubblefield sur, 860 ft from e and 600 ft from s line.

FORT BEND COUNTY—Cunningham Prod. Co., Houston, Blakely 6, E. E. Drews sur, 150 ft from e and 50 ft from s line.

GLASSCOCK COUNTY—Cosden & Co. Inc., Fort Worth, Roberts 2, sec 157, blk 29, W&NW sur, 200 ft from s and e lines. Magnolia Pet. Co., Dallas, Roberts 11, sec 136, blk 29, W&NW sur, 330 ft from w and 915 ft from s line; Roberts 10, 330 ft from n and w lines.

HARRIS COUNTY — Rio Bravo Oil Co., Houston, Settegast B B9, J. Kopman sur, 575 ft from n and 200 ft from e line; Settegast A A9, J. A. Williams sur, 1575 ft from n and 350 ft from e line. Kellaway & Forsen, Pearland, Stewart 2, W. D. C. Hall sur, 800 ft from sw and 600 ft from se line. Moody Corp., Houston, Settegast 3, J. Kopman sur, 150 ft from n and 375 ft from e line.

HOWARD COUNTY—L. C. Harrison, Midland, Dodge 1, sec 9, blk 30, twp 1S, 330 ft from s and e lines. Marland Oil Co., Fort Worth, Clay G1, sec 126, blk 29, W&NW sur, 250 ft from s and e lines; Clay A8, sec 139, blk 29, W&NW sur, 250 ft from n and w lines. W. B. Andrews, Fort Worth, Big Springs 1, sec 13, blk 32, T&P sur, 150 ft from n and e lines. Schermerhorn Oil Co., Tulsa, Okla., Roberts A 2, sec 137, blk 29, W&NW sur, 330 ft from n and w lines. Merrick & Lamb, Big Springs, Clay 5, sec 126, blk 29, W&NW sur, 2390 ft from e and 250 ft from s line. Magnolia, Dallas, Roberts 13, sec 136, blk 29, W&NW sur, 200 ft from n and 990 ft from e line.

HARDIN COUNTY — Rio Bravo Oil Co., Houston, Fee J84, C. S. F. Jorditt sur, 200 ft from n and 50 ft from e line; Fee T28, R. Teell sur, 500 ft from w and 130 ft from s line. Humphreys Prod. Corp., Houston, Blum 1½, S. Jackson sur, 12 ft from e and 10 ft from s line.

JONES COUNTY—Campbell & Clerk, Abilene, Dickman 1, sec 273, E. Williams sur, 330 ft from w and 660 ft from s line. Roeser & Pendleton, Inc., Fort Worth, Grayson 2, sec 13, blk 19, T&P sur, 3370 ft from sw and 929 ft from se line.

JACK COUNTY—E. W. Walton, Graham, Maxey 1, S. P. Ry sur, 150 ft from s and e lines.

JEFFERSON COUNTY—Yount-Lee Oil Co., Beaumont, McFaddin 80, P. Humphreys sur, 491 ft from e and 928 ft from n line.

LIBERTY COUNTY — Big Six Oil Co., Daisetta, Stovall 1, J. Devore sur, sw corner.

LIMESTONE COUNTY—Ewmo Oil Corp. & Mexia Dev. Co., Abilene, Sweatt & Bass 1, P. Varela sur, 750 ft from e and 150 ft from s line.

MIDLAND COUNTY—C. P. Sheldon, Electra, Kloh-Morgan 1, sec 13, blk 40, twp 4S, 450 ft n of center of s line.

MEDINA COUNTY—C. G. Cromwell et al, Big Lake, Taylor 1, sec 135, blk 28, 210 ft from n and 155 ft from e line.

MONTAGUE COUNTY—Bridwell Oil Co., Wichita Falls, Salmon D 4, W. P. Zuber sur, 300 ft e of No. 3.

PRESIDIO COUNTY—L. C. Brite, Marfa, Brite 1 s 40 b 12 GH&SA se corner.

PECOS COUNTY—Mid-Kansas O & G Co., Tulsa, Okla., Yates h 4 s 32, b 194 GC&CF 1007 ft n of center of s line. Yates h 5 4121 ft from w and 1387 ft from s line. Yates h 6 2462 ft from w and 1359 ft from s line. California Co., Colorado sur, Tippett 1, s e. B. F. Robertson 869 ft from w and 1040 ft from s line Smith 2 s 23 b 19 GC&SF 998 ft from n and 1548 ft from e line. Amerada Pet. Corp., Cisco, Johnson 1 s 20 b 140 T&St. L. 330 ft from n and e lines.

SHACKLEFORD COUNTY—Roeser & Pendleton Inc., Fort Worth, Cook A6 S62 220 ft e of center of w line, A77 S 60 492 ft from n and 150 ft from e line, G28 S 60 1236 ft from s and 541 ft from w line.

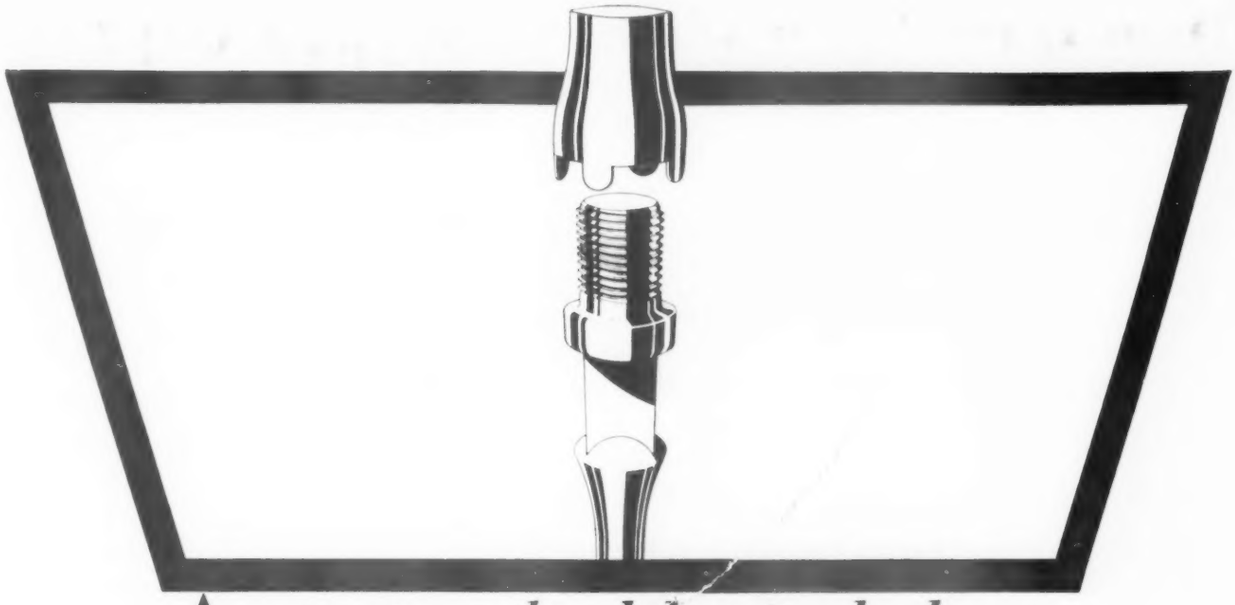
THROCKMORTON COUNTY—Erin Prod. Corp., Davis 1 No. 2 G. Alford, 304 ft from w and 848 ft from s line.

WICHITA COUNTY—Underwood Drilling Co., Wichita Falls, Pace sur 1 S 118, R. J. Scott, 150 ft n of center of s line, Hines & Panhandle Ref. Co., Wichita Falls, H. & J. Waggoner 4, S 2 GC&SF sur, 387 ft n of No. 2, Holbrook & Woods, Wichita Falls, Lockridge 1, B 3 L. Netherly, 150 ft from s and w lines, Magnolia Pet. Co., Dallas, Kemp & Blair 1, B 28 R. R. V. L. 150 ft from n and e lines, Pace 2 J. A. Kemp, 300 ft e of No. 1, Culbertson Co., Wichita Falls, J. J. Waggoner 55 s 13 BS&F, 1495 ft from e 2020 ft from s line. Comac Drilling Co., Wichita Falls, Bishop 1, L. Netherly, 150 ft from s and w lines. Burr Lambert, Wichita Falls, Fassett & Tuttle 1 B 1 E. T. Ry. 1005 ft from n and 150 ft from e line.

WINKLER COUNTY—Gulf Prod. Co., Fort Worth, Hendrick 28 S 45 B 26 660 ft e of No. 23, 29 660 ft e of No. 28, 30 660 ft e of No. 29. Humble O & R Co., Wichita Falls, T. G. Hendrick 15 S 41 B B5 330 ft from n and w line.

WILBARGER COUNTY—C. U. Beasley, Electra, Waggoner 1, S 13, B 4 H&TC, 150 ft from n and w lines. Dixie Oil Co. inc., Shreveport, La., Webb 1, J. Hayman, 4950 ft from n and 2970 ft w line.

WEBB COUNTY—Magnolia, Dallas, Bruni 7 B 65 Arriba 150 ft from n and 1200 ft from e line. O. W. Killam, Laredo, Bruni 17 B 64



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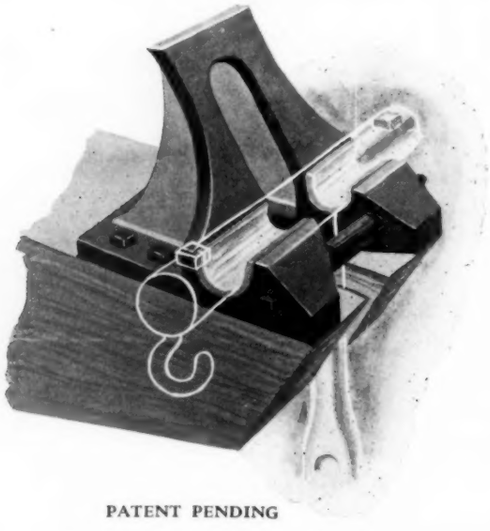

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SAVES the beam through the elimination of all wear and makes unnecessary the practice of *halfsoling*, or nailing a block of hardwood to the beam head. A *safety first* device as it is impossible for Temper Screw to accidentally jump out.

No working parts—the Burns Beam Head is built to withstand the most severe service. Equipped with babbitt bearings which prevent wear on the Temper Screw head. Made to fit Standard as well as Machine Beams.

A new Burns product that is destined to become as famous for quality and long service as the Burns Tubular Temper Screw—*used in fields throughout the world.*

TEMPER BURNS SCREW

BURNS *Tool Company*

OKMULGEE - OKLAHOMA

Arriba 360 ft n of No. 16, 20 750 ft e of No. 16. Houston Oil Co., Houston, Benavides D11 S 753 B 12 160 ft from n and e lines. Yeager-Stroman 3 No. 5 Las Animas 1200 ft e of No. 1. Benavides F2 No. 753 B 14 160 ft n and e lines. Magnolia, Dallas, Valdez 8 No. 754 300 ft n of No. 6. Newton Drilling Co., Laredo, Bruni 3 B 56 Albercas 450 ft from e and 970 ft from s line.

WHARTON COUNTY—Weed-Gayle Oil Co., Beaumont, Bay 24 S. F. Austin 470 ft from nw and 660 ft from sw line, 21 415 ft from nw and 255 ft from sw line. Gulf Prod. Co., Houston, Chase 13 S. F. Austin, 200 ft se of No. 11.

WARD COUNTY—Rector Oil Co. inc., Midland, Johnson 160 1 S No. 10 B 32 H&TC 1155 ft from nw and 5610 ft from ne line.

WASHINGTON COUNTY — Sun Oil Co., Dallas, Grote 1 N. Clay 521 ft from ne and 445 ft from se line.

YOUNG COUNTY—Kleiner, West & H-Y Oil Co., Cisco, Langston 18 1490 TE&L 1050 ft from n and 150 ft from w line. C. A. Pennell, Lovin, Johnson 2 E. W. Sargent, 300 ft n of No. 1. Barkley & Meadows, Wichita Falls, Stewart 15, D. Dawson, 300 ft s of No. 14. H. A. Ellis, Wichita Falls, Alexander 1, BS&F No. 1 800 ft e of center of w line. Atlantic Oil Prod. Co., Dallas, Boone 1 BBB&C 150 ft from n and 450 ft from w line. C. E. Beavers, Wichita Falls, Stewart 1, D. Dawson, 150 ft from n and e lines. C. W. Boller, Wichita Falls, Gregg 9, A. Rohus, 300 ft e of No. 3. L. O. Nix et al, Loving, Davis 1, 1487 TE&L 150 ft from n and e lines. Shappell Oil Co., Wichita Falls, Garrett 2, 1487 TE&L, 150 ft from s and w lines. Paull Oil Co., Graham, Allen 2, N. Lynch, 445 ft ne of No. 1. Thompson 1, TE&L, 250 ft from ne and se lines. Kleiner, West & H-Y Oil Co., Cisco, Langston 17, 1490 TE&L, 150 ft from s and w line. Petroleum Prod. Co., Wichita Falls, Henning 4, 410 TE&L 387 ft e of No. 3. Walton & Wixon, Graham, Harmonson 1, B2 GB&N 150 ft from n and 240 ft from w line. Atlantic Oil Prod Co., Dallas, McClure 1, 1991 TE&L 150 ft from w and 750 ft from s line.

OKLAHOMA

BECKHAM COUNTY — Producers Explo-Co., Pederson 2, nw ne nw 23-9n-23w. Magnolia, Ensley 1, csw sw 21-9n-23w.

CARTER COUNTY—Magnolia, Winters 3, nw sw se 19-1s-3w. Hall & Briscoe, Miller 3, ne sw 29-1s-3w.

COTTON COUNTY — Cullum & Perkins, Priddy 3, sw nw ne ne 3-2s-10w.

CREEK COUNTY—Gled Oil Co., Murrell 1, nw 17-19-9e. Collins et al, Littlehead 1, cwl se ne 26-18-11e. O. M. Ireland et al, Weaver 1-A, (owdd) nw se 16-17-11e. Gypsy, Luckey 12, (owdd) se sw ne ne 28-16-9e. F. R. Billingslea et al, Garrett 1, ne se 17-16-10e. Holder 1, se ne 17-16-10e. Madden & Madden et al, Wright 2, ne sw se 13-15-9e.

GRADY COUNTY—Carter, Mar-Horton 3, se 8-3n-5w. Becker et al, Mileur 1, nw 24-4n-8w.

HUGHES COUNTY—Pure, Fixico 1, ne sw 18-8-9e. Jarvis & Holmes, Street A-1, (twin) nw se nw 21-7-8e; Street 2, sw se nw 21-1-8e.

JEFFERSON COUNTY—Gypsy, Busby 4, sw se sw 17-7-5w.

KAY COUNTY—Nehr Oil Co., Myer 1, csw sw 3-27-1e; Texas, Cassity 1, nw ne sw 29-25-1w.

LOGAN COUNTY—Roxana, Freelove 2, nw sw sw 17-19-4w; Ross 3-B, ne se 19-19-4w; Rouse B-2, nw ne ne 19-19-4w. Sinclair, Webber 2, ne se se 18-18-4w; Webber 3, sw se se 18-18-4w. Twin State & Crosbie, Shaffer 3, sw nw 20-19-4w.

MARSHALL COUNTY—E. L. Smith, Hull 4, sw se se nw 24-5s-5e.

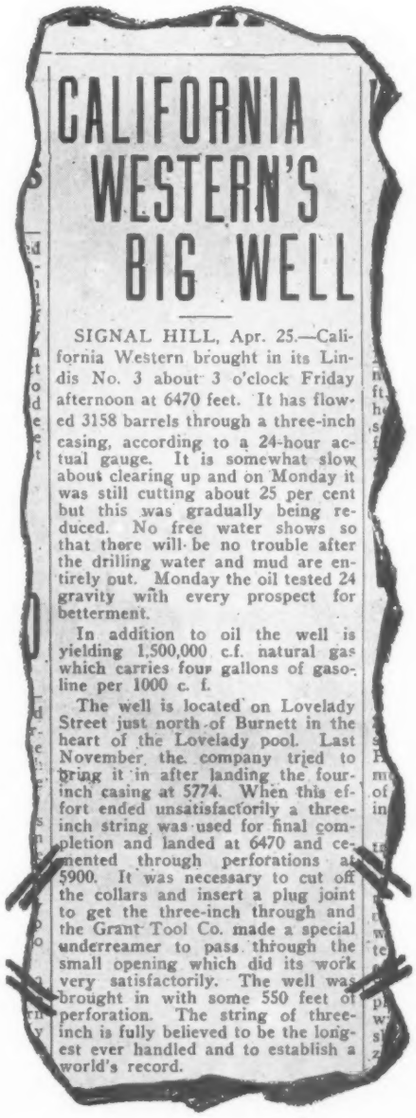
MURRAY COUNTY — Gilcrease Oil Co., Wolfe 1, sw nw 21-1n-2e.

MUSKOGEE COUNTY — Joe Paul et al, James 4, sw 17-14-17e.

OKFUSGEE COUNTY—Dixie Oil Co., Drew 1, ne sw 8-13-10e. Producers Oil So. et al, Barnett 3, cel sw sw 19-11-11e. Humphrey et al, Adams 2, cwl sw ne 23-11-11e. W. L. Umbaum, Tiger 6, csl ne nw 2-10-11e. T. A. Johnson et al, Robinson 1, sw nw nw 12-10-11e.

OKMULGEE COUNTY—Texas' Asbury 2, se 8-15-14e. Tiger Mt. Oil Co., Tucker 8, sw ne se 2-13-14e. McInturff et al, Porter 1-A,

ALWAYS USE A GRANT—THEY DO WHAT OTHERS CAN'T



CALIFORNIA WESTERN'S BIG WELL

SIGNAL HILL, Apr. 25.—California Western brought in its Lindis No. 3 about 3 o'clock Friday afternoon at 6470 feet. It has flowed 3158 barrels through a three-inch casing, according to a 24-hour actual gauge. It is somewhat slow about clearing up and on Monday it was still cutting about 25 per cent but this was gradually being reduced. No free water shows so that there will be no trouble after the drilling water and mud are entirely out. Monday the oil tested 24 gravity with every prospect for betterment.

In addition to oil the well is yielding 1,500,000 c.f. natural gas which carries four gallons of gasoline per 1000 c. f.

The well is located on Lovelady Street just north of Burnett in the heart of the Lovelady pool. Last November the company tried to bring it in after landing the four-inch casing at 5774. When this effort ended unsatisfactorily a three-inch string was used for final completion and landed at 6470 and cemented through perforations at 5900. It was necessary to cut off the collars and insert a plug joint to get the three-inch through and the Grant Tool Co. made a special underreamer to pass through the small opening which did its work very satisfactorily. The well was brought in with some 550 feet of perforation. The string of three-inch is fully believed to be the longest ever handled and to establish a world's record.

Excerpt from California Oil World of April 25, 1928. The special 4-inch Grant Underreamer used is shown on the right.

Where there's a will—there's a way!

THIS unsolicited article illustrates the impression a Grant Underreamer performance made upon an impartial editorial staff. Their writers, with all the details in front of them, saw that Grant ability and experience had been able to solve an underreaming problem which many had said was impossible. They saw that the Grant Oil Tool Company had the will and had found the way. They simply gave credit where credit was due.

But that was not all. Later, in an interview, R. E. Haverstrite, president of the California Western Oil Company, said, "Had it not been for the special Grant Underreamer we would have undoubtedly lost the well."

Why take a chance, why lose time and money in needless experimenting—come to "Underreamer Headquarters" for the solution of your underreaming problems.

Any style of underreamer you desire, including GRANT Cable Tool Underreamers.

GRANT OIL TOOL COMPANY

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GRANT

"UNDERREAMER HEADQUARTERS"

Say you saw it in The OIL WEEKLY

se ne se 4-12-14e. Winemiller Corp., Escos 1, ne sw sw 22-16-11e. Shaffer O&R co., Roberts 1, se sw 22-16-11e. Sheldon Oil Co. et al, Dixon 1, nw sw se 14-14-11e.

OSAGE COUNTY—C. O. Ross, No. 9, sw ne nw 14-29-11e. Phillips Pet. Co., No. 10, nw sw se 17-27-6e; No. 11, sw ne sw se 17-27-6e. Marland et al, No. 9, se ne nw 15-24-8e. Wm. D. Gray, No. 2, csl n½ s½ se 34-24-8e. Clint Moore est and Ohio Osage Oil Co., No. 9, csl n½ s½ sw 9-21-9e; No. 2, ne nw 16-21-9e. H. H. Mundy's No. 1, nw se 4-20-9e.

PAWNEE COUNTY—Magnolia, Vicker 3, sw nw ne 14-20-6e. Commercial Drilling Co., Caples 1, nw ne sw ne 31-20-9e.

POTTAWATOMIE COUNTY — Atlantic and Gypsy, Delaware 1, se ne ne 13-9-4e; Texas' Rogers 6, se nw se 5-9-5e. Magnolia, Clour 2, ne se 11-7-4e. Darby Pet. Co., Harber 2, ne sw 23-7-4e. Sinclair, Blandin 7, ne nw sw 24-7-4e. Gypsy, Bruno 3, sw ne nw 25-7-4e; Collins 2, ne se 25-7-4e. Mid-Kansas, Gesselman 3, sw nw 25-7-4e; Gesselman 4, ne sw nw 25-7-4e. Gypsy, Dodson 1, ne se 26-7-4e. Magnolia, Cherry B-1, se ne 26-7-4e; Yants 4, nw ne sw 19-7-5. Roxana, Youts 1, nw sw 28-7-5. Gypsy, Johnson 1, nw se nw 29-7-5. Independent and White Eagle, Lowe 1, nw se sw 29-7-5. Sinclair, Nadash 2, se nw sw 29-7-5e. Barnsdall, Stahl 2, se sw nw 30-7-5.

SEMINOLE COUNTY—T. B. Slick, Campbell 1, se nw 6-9-6e; Tiger 1, nw sw se 13-8-5e. Gypsy, Denmark 4, sw se 11-7-6. Pure, Harjo 4, se sw ne 11-7-6e. Gypsy, Hulhoke 11, Ne sw se 14-7-6. Independent, Tewee 6, se nw se 14-7-6e. Reiter-Foster, Bunyard 4, ne nw sw 14-7-6e. Carter, Cotcha 4, se sw ne 23-7-6. Independent, Harris 7, ne se nw 23-7-6e; Harris 8, ne nw nw 23-7-6. Pure, Cotcha 9, sw se ne 23-7-6e. Roxana, Hotulke 4, nw ne nw 23-7-6e.

STEPHENS COUNTY—Magnolia, Bell 4, sw se sw 13-1s-4w. Fossett et al, Adams 1, (owdd) nw sw 19-1s-6w. Roy Carter, Burke 3, ne sw sw se 34-1s-8w. Medlin et al, Burke 4, se nw nw ne 34-1s-6w; Simpson 1, ne sw se 34-1s-8w. George Pace et al, Bristowe 7, ne nw nw 18-2s-7w; Peniston 2, sw nw sw ne 18-2s-7w.

TULSA COUNTY—C. L. McMahon et al, Meyer 1, nw ne 14-19-10e. Glidden oil Corp., Wray 4, se sw sw 35-19-13e.

KANSAS

BUTLER COUNTY—Rosenthall et al, Schaffer 11, nw se se 4-27-6e. Blue Stem Oil Co., Doughty 3, cwl nw sw 5-27-6e. C. L. Brosius et al, Glass 1, se ne sw 15-27-5e. Empire, Cranston 5, ne nw se 22-27-5e.

ELK COUNTY—Silurian Oil Co., Chaney 1, se 8-29-11e.

GREENWOOD COUNTY — Kansas Oil Corp., Hendrickson 1, se 7-25-9e.

MARION COUNTY—Youlker et al, Walker 1, se sw sw 11-17-4e.

SUMNER COUNTY—Boxer etal, Griffith 1, (owd) ne sw sw ne 15-35-2e.

CALIFORNIA

BELRIDGE—The Ohio Oil Co., No. 17, 30-28-21.

HUNTINGTON BEACH — W. D. McCoy, No. 2, 11-6-11.

LONG BEACH—Robert Bowles Oil Co., No. 4, 24-4-13. Interstate Oil Co., Jones 2, 29-4-12. The Petroleum Co., Ifland 2, 24-4-13. General Pet. Corp., Fulton-McKee 1, 24-4-13.

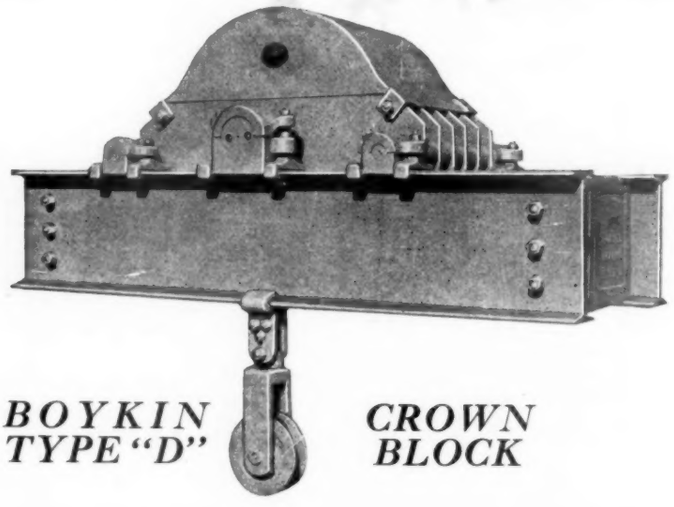
LOS ANGELES COUNTY—Associated Oil Co., Taylor 1, 33-2-12.

MIDWAY—Honolulu Consolidated Oil Co., No. 27, 8-32-24.

MONTEBELLO—Standard Oil Co., Stocker-Merced 2, 2-2-12.

RICHFIELD—Continental Oil Co., Richfield-Community 2, 3-33-9.

SANTA FE SPRINGS—Associated Oil Co., Dewenter 6, 6-3-11; Dewenter 7, 6-3-11. The Texas Co., Matern Three 11, 6-3-11. Associated Oil Co., Green 3, 6-3-11; Jordan 2, 6-3-11; Jordan 3, 6-3-11. Wilshire Annex Oil Co., Wilshire Annex Koontz 5, 6-3-11. Superior Oil Co., Wardman 4, 6-3-1; Wardman 5, 6-3-11. George F. Getty, Inc., S. F. S. 18, 6-3-11; S. F. S. 20, 6-3-11; S. F. S. 21, 6-3-11. Universal Consolidated Oil Co., Blanchard 6, 6-3-11. Shell Co., G. H. B. 15, 3-2-11. Standard Oil Co., Koontz 7, 6-3-11; Koontz 8, 6-3-11. St. Helens Pet. Co., Ltd., Hill 1, 6-3-11. Texas Co., Bat-



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Complete Protection

Long Life — Constant Service

In keeping with the Boykin "Grey Hound", standard of construction, nothing has been overlooked in making the new type "D" Crown Block a marvel in performance and unfailing in service.

The cover, a new feature, adds extra protection to the sheaves and bearings.

The sheaves are deeply grooved, and machined to assure longer life to your lines.

Its notable features are roller bearings, self-oiling, perfect balance, no friction and proper alignment.

This New Boykin Crown Block is as superior to ordinary crown blocks as the Famous Boykin Traveling Block is to other traveling blocks—

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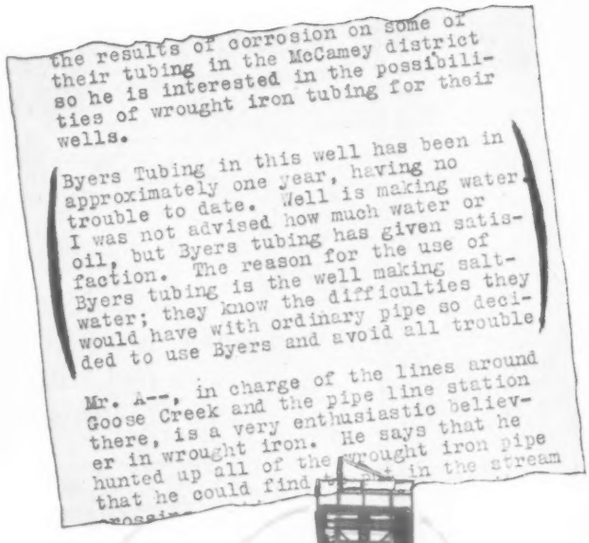
Aerial Mosaic Maps

"Well making salt water" — *is reason for BYERS*



the results of corrosion on some of their tubing in the McCamey district so he is interested in the possibilities of wrought iron tubing for their wells.

Byers Tubing in this well has been in approximately one year, having no trouble to date. Well is making water. I was not advised how much water or oil, but Byers tubing has given satisfaction. The reason for the use of Byers tubing is the well making salt water; they know the difficulties they would have with ordinary pipe so decided to use Byers and avoid all trouble

Mr. A--, in charge of the lines around Goose Creek and the pipe line station there, is a very enthusiastic believer in wrought iron. He says that he hunted up all of the wrought iron pipe that he could find [illegible] in the stream

CONFIDENTIAL REPORT • • •

The above is an extract from routine reports made daily by Byers representatives to the home office. These representatives are delegated to study corrosive conditions as regards tubing, line pipe, etc., in the Mid-Continent field. While one isolated report like the above does not make a case, hundreds of reports of similar character on pipe used under varying conditions of service, show clearly the economy of galvanized wrought iron pipe.

THIS actual, uncolored report is typical of hundreds covering conditions in oil pools everywhere.

These reports all bear out what we have been saying time and again—that Byers Galvanized Tubing of genuine wrought iron will have vastly longer life in severe service than ordinary tubing.

The reason is plain: Due to the rough surface of wrought iron which has been "pickled" for galvanized purposes, the heavy zinc coating imbeds itself deeply and securely, forming a permanent bond with the base metal.

The zinc coating on Byers will not chip, flake or peel in handling and in service like the coating on ordinary tubing. Therefore you can cut, thread, bend and abuse Byers Galvanized Tubing without danger of destroying the thick, tough zinc coating.

Actual uses and tests have consistently demonstrated that Byers wrought iron has a corrosion resistance many times greater than that of ordinary tubing material.

The facts about galvanized wrought iron tubing have been published in a bulletin available on request. Just ask for literature on galvanized tubing. No obligation.

A. M. BYERS COMPANY

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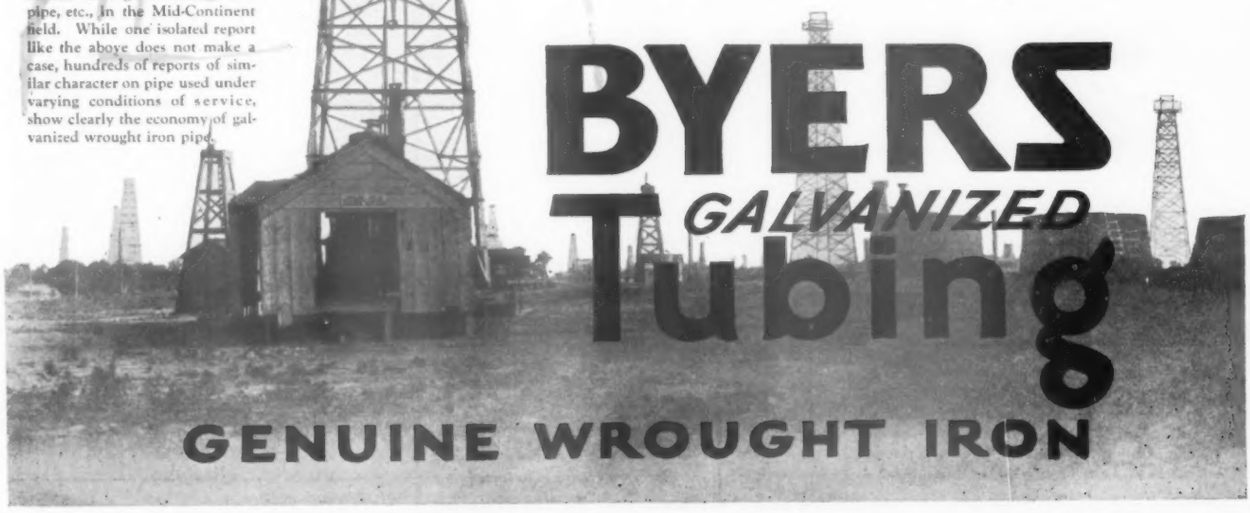

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son 5, 6-3-11; Matern Three 12, 6-3-11. General Pet. Corp., Jalk 11, 6-3-11.

SEAL BEACH—Standard Oil Co., San Gabriel 15, 3-5-12.

VENTURA—Shell Co., Taylor 29, 28-3-23. Petroleum Securities Co., Orton 11, 28-3-23.

LOUISIANA

ACADIA PARISH—Abshire-Bolyard Oil Co., Jennings, Jennings-Heywood 5, 41-9s-2w, 65 ft e and 50 ft s of nw c.

BOSSIER PARISH—The Palmer Corp. of La., Shreveport, Arron T. Jeter 1, 24-17n-12w, 30 ft s and 660 ft e of nw c sw.

CADDO PARISH—L. M. Emlet, Shreveport, Glassell 9, 10-20n-15w, 330 ft s and 100 ft e of nw c ne nw sw.

CAMERON PARISH—Noble O. & G. Co., Inc., Lake Charles, Porter Elander 2, 27-12s-10w, 859 ft s and 216 ft w of ne c nw.

DE SOTO PARISH—Louisiana Public Utilities Co., Mansfield, John Clayton 1, 14-21n-12w, 660 ft n and 660 ft e of sw c se.

IBERIA PARISH—Jefferson Lake Oil Co., Inc., New Orleans, Lake Peigneur 1, 58-12s-5e, approx 3450 ft s 77 degrees w of ne c.

MOREHOUSE PARISH—Consolidated Carbon Co., Monroe, Perry 2, 14-20n-4e, 1980 ft e and 3387 ft s of nw cor of sec.

TENSAS PARISH—W. L. Brock, Tr., McComb, Miss., J. T. Curry 2, 39-11n-12e, 100 ft s and 100 ft e of nw c se nw.

Ohio Gas Line Will Serve Cities In Utah

Casper, Wyo.—O. D. Donnell, president of the Ohio Oil Company, visiting the Casper offices, stated this week that the decision to lay the gas pipe line from the Baxter Basin and Hiawatha Dome gas fields to Ogden and other Utah communities, including probably Salt Lake City, had been made and that work was to be started immediately. Ogden and other towns have granted franchises to Ohio Oil Company, and it is expected that the election August 20 will also be favorable at Salt Lake City. Most of the preliminary work has been completed on the line, so that when work starts it will go forward with speed. It is planned to complete the line across the mountainous country before winter.

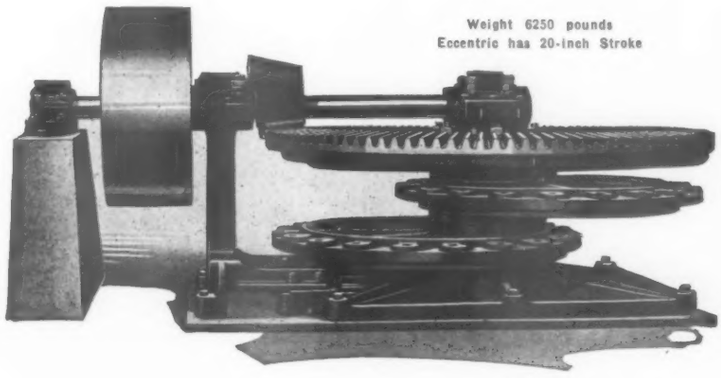
This is the most important natural gas project to be undertaken in the Rocky Mountain states. It is to be more than 200 miles long, and will cost from eighteen to twenty million dollars. The pipe is to be 12, 14, 16, 18, 20, and 22 inches in diameter, of plain end pipe with couplings for the most part; remainder will be welded joints. It will probably be laid by contract, although the company is prepared to do the work with its own organization.

It is not decided whether the company will act only as a transportation unit, buying and wholesaling the gas, or whether it will also retail the product. It is probable that it will act in both capacities; in some communities it will be more convenient to manage both, while in others it will not.

Schedule of prices is not agreed upon; rates will be fixed by the public utilities commission after the cost of the line is determined. The rates will, however, be low enough to compete with coal, which is the principal fuel now used in Salt Lake City and other towns which the line will serve.

A Heavy Under-Pull Power

With Two Eccentrics



Weight 6250 pounds
Eccentric has 20-inch Stroke

THE power illustrated above is conceded to be one of the most powerfully geared powers on the market. A very heavy under-pull power with two eccentrics, each having a 20-in. stroke. The pinion shaft is supported on three bearings, which is a very important point, because tight belts soon pull ordinary powers out of line, resulting in broken gears.

This power is geared eight to one, the pinion is steel, and we have never had one fail on the heaviest of loads.

We recommend this power in place of the usual band wheel powers, and their expensive installation. If desired, we can furnish this power with one eccentric.

PATTIN PRODUCTS

- Gas Engines
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- Vacuum Pumps
- Shackle Irons
- Pumping Powers
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- Steel Storage Tanks
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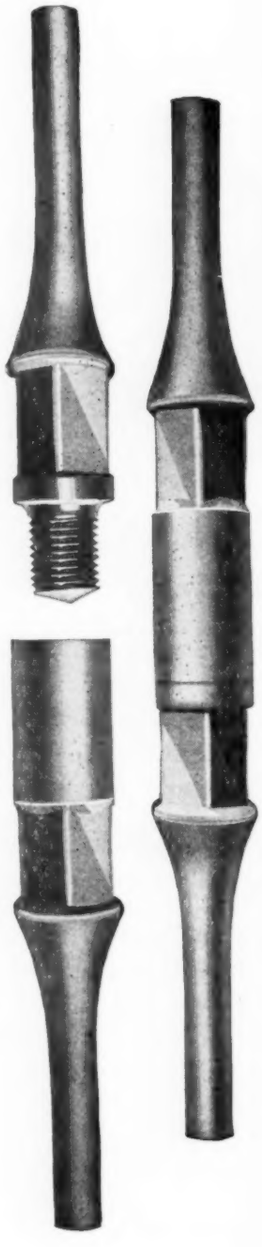

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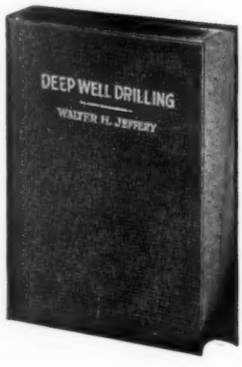

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WILDCATS FROM ALL SECTIONS

WEST TEXAS

Completions

Company, well and Location	Initial Production Bbls.	Depth
FISHER COUNTY—		
Roeser-Pendleton, Inc., et al, Decker 1	*	1325
IRION COUNTY—		
Empire Gas & Fuel Co., Sawyer 1...	*	2072
MITCHELL COUNTY—		
Owen-Sloan Oil Co., Brown 1.....	*	1305
PECOS COUNTY—		
Fuhrman Pet. Corp., Efing 1.....	*	2010
STONEWALL COUNTY—		
Henshaw Oil Corp. et al, Moore 1...	*	3350

ANDREWS COUNTY—Deep Rock Oil Co.'s Harris 1, 3173 ft, top salt 1705 ft, top lime 4005 ft, showing oil and gas, dr 4365 ft.

BORDEN COUNTY—E. L. Doheny et al's Koonsman 1, dr 1385 ft.

BREWSTER COUNTY—Cowden-Cole et al's Jackson-Harmon 1-A, dr 1465 ft. Forest Oil Corp.'s Skinner 1, sd 1150 ft. Van McPhail et al's McIntyre 1, sd 1765 ft. Reese & White's Kimball 1, sd 1825 ft. Clayton Williams et al's Poncey 1, rig.

COKE COUNTY — Lipan Oil Co.'s Rawlings 1, sd 2840 ft.

CONCHO COUNTY—Douglas Oil Co. et al's Harral 1, showing oil, dr 3434 ft. Exploration Co.'s Hartgrove 2, machine.

CRANE COUNTY—Church & Fields' University 3, dr 725 ft. C. C. Duffey et al's Cowden 2, elev 2576 ft, top salt 750 ft, dr 2150 ft. Gulf's Waddell 5, rig. Evans-Anderson et al's State Bank Fee 1, elev 2463 ft, top salt 525 ft, making water, dr 3240 ft.

CROCKETT COUNTY—T. W. Callahan et al's J. S. Todd 1, rig. Hal Compton & Co.'s University 1, elev 2681 ft, top salt 1055 ft, top lime 2055 ft, fsh 2062 ft. W. W. Donnelly et al's Massie 1-A, sd 1103 ft; Shannon-Middlebuster 2, (Sec. 18), top salt 774 ft, sd 1175 ft; Shannon-Powell 1, (Sec. 42), sp and sd. Fuhrman Pet. Corp.'s Padgett 1, sd 150 ft. Renee Oil Co.'s University 1, elev 2692 ft, top salt 1100 ft, top lime 2070 ft, dry hole after second shot, td 2706 ft.

CULBERSON COUNTY—Deep Rock Oil Co. and Grisham-Hunter Corp.'s Bettis 1, elev 3724 ft, dr 1535 ft. J. M. Hickey et al's Finley 1, dr 1415 ft. Scott & Dittman's Miller 1, sd 1765 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, dr 3150 ft.

DAWSON COUNTY—Magnolia Pet. Co.'s W. R. Jeter 1, materials.

EDWARDS COUNTY—Magnolia Pet. Co.'s Whitehead 2, dr 1180 ft. McMan O. & G. Co.'s Schreiner 1, dr 1230 ft.

EL PASO COUNTY—C. E. Sillix et al's Malone 1, sd 1010 ft.

FISHER COUNTY—Cranfill-Reynolds and Sun Oil Co.'s E. G. Young 1, and J. A. Young 2, rigs; B. F. Willingham 1, sp. R. W. Rainey and Bill Little's Marberry 2, elev 1929 ft, top lime 2995 ft, sd showing oil and gas 3289 ft. Roeser-Pendleton et al's Decker 1-A, skid rig. Texas Unity Oil Co.'s Reddus 1, elev 1868 ft, dr 2855 ft.

GARZA COUNTY—Emerald Oil Co.'s Boren 3, elev 2353 ft, top salt 660 ft, top lime 1605 ft, dr 4765 ft.

GLASSCOCK COUNTY — Eastland and White Eagle's Cox 1, dr 1505 ft. Meriwether Oil Co.'s McDowell 2, elev 2522 ft, top salt 1000, top lime 2510 ft, sd 3738 ft. Roxana Pet. Corp.'s Boston 1, elev 2713 ft, top salt 1205 ft, top lime 2760 ft, dr 3765 ft. World Oil Co.'s McDowell 1-B, elev 2521 ft, top salt 975 ft, sd 2360 ft.

TOM GREEN COUNTY—F. P. Green et al's Fee 1, sd 1065 ft. Tinker et al's Jones 1, sd 940 ft. McLaughlin & Ridge's Holder 1, sd hfw 3000 ft.

HOWARD COUNTY—Amerada Pet. Corp. and Rycade's Roberts 1, elev 2738 ft, top lime 2115 ft, dr with hfo 2490-2530 ft; Stewart 1, elev 2779 ft, top lime 2240 ft, dr with hfw 3175 ft. Bristow & Merrick's Hooks 8, sp and sd.

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas-casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches lcn—location; m—milling; n, s, e. w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

J. S. Cosden & Co., Inc.'s Roberts 2-A, elev 2792 ft, top lime 2205 ft, cem 6-in cas 3103 ft; Roberts 3-A, elev 2754 ft, top lime 2139 ft, cem cas 3010 ft; Roberts 4-A, sp and sd. Coyle-Concord Oil Co.'s Roberts 1-A, sp. W. W. Donnelly et al's Clay 1, elev 2674 ft, top lime 2130 ft, dr 2270 ft. Dunigan and Fred Hyer's Clay 1, cem cas 1480 ft. Evans Oil Co.'s Roberts 1, dr 1850 ft. F-H-E Oil Co. and Moody Corp.'s Roberts 3-B and 4-B, lcns; Roberts 1-C, plug back from hfw at 3070-73 ft to 3069 ft; Roberts 3-E, cem cas 1608 ft; Roberts 4-E, sd 280 ft; Roberts 5-E and 7-E, lcns; Roberts 8-E, pumped 350 bbls 18 hrs, 1302-10 ft and completed. Godley O. & G. Co.'s Hooks 6, sd 1729 ft; Hooks 7, dr 1410 ft. Gulf Prod. Co.'s Chalk 5, sd 1597 ft; Clay 2, comp, swabbed 100 bbls after shot, td 1897 ft. Greene O. & R. Co.'s Clay 2, dr with hfo 1790-1805 ft; Clay 3, lcn. L. C. Harrison et al's Dodge 1, dr 120 ft. Laurel O. & G. Co.'s Reid 1, elev 2375 ft, top salt 965 ft, dr 3505 ft. Laurel and Cosden & Co.'s Roberts 5, elev 2757 ft, dr by tools 2585 ft; Roberts 6, elev 2744 ft, top lime 2030 ft, completed swab 535 bbls oil 4½ hours at 2971-3017 ft; Roberts 7, dr 1280 ft. Louisiana Oil Ref. Corp.'s Kloh 1, lcn. McGinley Corp. and Henshaw's Settles 1-B, elev 2680 ft, top lime 2085 ft, 2962 ft, Magnolia Pet. Co.'s O.Daniel 2, show oil 2655-65 ft, dr 2880 ft; Roberts 4, elev 2704 ft, dr with hfo 3012 ft; Roberts 5, dr with hfo 2595 ft; Roberts 8, elev 2729 ft, top lime 2045 tf, cem 5-in cas 2913 ft; Roberts 9, dr 1515 ft; Roberts 10 and 11, rigs; Roberts 12, lcn; Roberts 13, set cas 255 ft. Marland Prod. Co.'s Clay 1-G, rig; Clay 8-A, materials; Clay 1-F, swab 65 bbls oil after shot 765-79 ft; Roberts 1, lcn. Merrick & Lamb's Clay 5, machine. Mid-West Explo. Co.'s Clay 1, swab 60 bbls oil after shot 1755-79 ft. Schermerhorn Oil Co.'s Roberts 2, dr 2705 ft; Roberts 2-A, rig. Sprague Oil Co.'s Roberts 1, dr 2120 ft. Sun Oil Co.'s Settles 3, rig. Taylor-Link Oil Co.'s Kloh 1, lcn. Texon Oil & Land Co. and Marland's Settles 2-A (dd) showing oil, dr 2505 ft; Settles 3-A, rig; Settles 4-A, lcn; Settles 5-A, dr 760 ft. Ward Oil Co.'s Roberts 2, dr 1220 ft.

HUDSPETH COUNTY—Western States Oil Co.'s Gardner-Mosley 1, set cas 2930 ft; S. W. Moore 1, sd 2240 ft.

IRION COUNTY—Kimbrough & Tuel's Nutt 1, dr hfw 1228-30 ft. Mertzon Oil Co.'s Roach 1, dr 1520 ft. Moore & Kenney's Tankersley 1, elev 2283 ft, pump 10 bbls oil and 10 bbls water 1344-47 ft. Webb et al's Nutt 1, sd hfw 1890 ft. West et al's Suggs 1, dr 380 ft.

JONES COUNTY—E. P. Campbell and Clark's Dickinson 1, dr 1865 ft. E. P. Campbell et al's Berry 1, rig. Cowboy Evans et al's King 1, set cas 1560 ft. Hucony Gas Co. and Atkinson & Sandefer's Tiner 3, dr 2285 ft. Hurley Oil Co.'s Gunther 1, sd 2640 ft. Hurley and White Eagle's Derrick 1, rig. McMan O. & G. Co.'s Tiner 1, dr 690 ft. Pandem Oil Corp.'s Cox 1, dr 230 ft. Phillips Pet. Co.'s S. Boy-Winters 1, dr 2220 ft; Sharp 1, elev 1881 ft, hfw 3016-17 ft and pb 2543 ft; Walling-Tessie 5, dr 2300 ft. Robert Oil Corp. and Cosden & Co.'s Grayson 4 and 5, dks. Roeser-Pendleton and Lendreth's Grayson 1, set cas 2515 ft; Grayson 2, rig. Roeser-Pendleton and Stebbins' Higgs 1-B, sp. Snowden & McSweeney's Bickley, set cas 2445 ft. W. W. Zingery et al's Thomas 1, lcn. Texas Co. and Cosden's Carter 2, lcn.

KENT COUNTY—Cosden & Co.'s Bilby 1, dr 1875 ft. Phillips Pet. Co.'s Sandell 1, sd 2830 ft.

KING COUNTY—Humble's Pitchfork 1, sd 4035 ft. Texas Co.'s Johnson 1, dr 3110 ft.

LOVING COUNTY—Lockhart & Co.'s Bowers-Wells 1, elev 2690 ft, top salt 730 ft, top black lime 4199 ft, shot 250 qts in Delaware sand 4229-38 ft and flowed 150 bbls oil; Hubbard 1, elev 2693 ft, top salt 708 ft, dr 2910 ft; Fee-Lepp 1, dr 4180 ft. Hadlock Oil Co.'s Russell 2, elev 2678 ft, top black lime 4230 ft, sd after shot, td 4395 ft.

MARTIN COUNTY — Phillips Pet. Co.'s Slaughter 1, elev 2726 ft, top salt 1685 ft, co 3430 ft.

MENARD COUNTY—Moody Corp.'s Allison 1, elev 2053 ft, dr 2990 ft. Panhandle Ref. Co. et al's Eckhardt 1, show oil 2475 ft, dr 2515 ft. Renfro et al's Davis 1, sd 790 ft.

MIDLAND COUNTY—C. P. Shelton et al's Kloh 1, rig. O. H. Shoup et al's Parks 1, elev 2871 ft, top salt 1740 ft dr 3115 ft.

MITCHELL COUNTY—E. P. Campbell et al's Pong 1, rig.

NOLAN COUNTY—Herbert Oil Co.'s Pepper 1, dr 830 ft.

PECOS COUNTY—Amerada Pet. Corp.'s Johnson 1, dr 175 ft. Anderson et al's University 1, sd 1880 ft. Alexander-Lyles et al's Sellman 1, top salt 815 ft, sd 1008 ft. Benedum & Trees' Corder 1-A, top lime 1840 ft, fsh hfw 1900 ft. Ditto Oil Co.'s Montgomery 1-A, skid rig. Bob Elmore et al's M. Holmes 2, sd 1890 ft. J. W. Grant et al's W. W. Turney 1, elev 2592 ft, dr 3845 ft. Olean Pet. Corp.'s Harral 1, elev 3005 ft, top salt 845 ft, top lime 2540 ft, dr 3080 ft. Pecos Valley Oil Co.'s Fee 1, sd 285 ft. Phillips Pet. Co.'s Heyman-Nutt

Frannie Structure

Casper, Wyo.—Reliable information from the wildcat well being drilled in Northern Wyoming on the Frannie Structure by the Rosenburg interests is to the effect that oil is standing within 200 feet of the top of the casing in a hole bottomed at 2585 feet in the top of the Embar. Refiners test of the crude shows it to be 28 gravity, with a gasoline content of 20 per cent. Location is in Section 25-58n-98w, about two miles south of the Montana line. This well was started about two years ago by V. M. Kirk of Frannie and Julius C. Peters of Great Falls, operating under the name Summit Oil Company. Test was taken over by the Ralph Arnold interests of California, who, in turn, sub-leased it to E. H. Rosenburg of Los Angeles. The Producers & Refiners Corporation has taken over the South Frannie structure and will probably start a test immediately.

Muskrat Structure

Casper, Wyo.—Producers & Refiners Corporation has five million cubic feet of gas in its well on Muskrat Structure, between Alkali Butte and Dutton Basin, in Fremont County, Wyoming, Section 34-34-92, at the top of a sand encountered at 4300 feet. This is considered an excellent indication of the structure's possibilities as an oil producer. A commercial well here will add another to Wyoming's list of oil fields.

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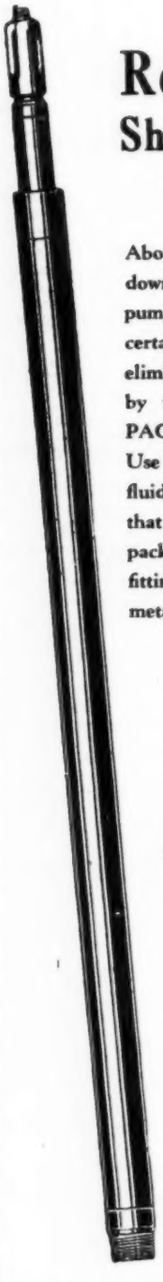

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1, elev 2943 ft, top lime 2085 ft, dr 3900 ft. Roxana and Kirby's Univerity 1, dr 3145 ft. Schumaker et al's Williams 1, sp and sd. Southern Crude Oil Pur. Co.'s Scharbauer 1, elev 2680 ft, dr 2925 ft. Transcontinental's University 1, elev 2552 ft, top lime 1035 ft, dr 3885 ft. Vacuum Oil Co.'s Elsinore 1, elev 3554 ft, dr 4100 ft. P. R. Whonlich & Co.'s Arnold 1, dr 380 ft. World Oil Co.'s Kloh 1, elev 2810 ft, at 3105 ft.

PRESIDIO COUNTY—Empile et al's Tootles 1, sp and sd. L. C. Brite et al's Fee 1, dr 180 ft.

REAGAN COUNTY — Empire Gas & Fuel Co.'s Sawyer 1-A, materials.

REEVES COUNTY—E. W. Brooks et al's Eddins 1, fsh 5658 ft. Eastland-Vacuum and Geo. Lyles' Campbell 1, dr 2279 ft. Exploration Co. et al's Kinney 1, elev 2847 ft, sd 2900 ft. McRobie et al's Bell 1, sd 500 ft.

RUNNELS COUNTY—Agnew & Sons' Russell 1, ur 2414 ft. Gibson-Johnson's Rainwater 1, sd 2500 ft. Kennedy et al's Tally 1, sd hfw 3007 ft. Nourse & Tilton's Cramer 1, rig. Pure Oil Co.'s Giesecke 1, dr 1425 ft.

SCHLEICHER COUNTY—Long Bros. et al's Williams 1, sp and sd.

SCURRY COUNTY—Landreth Prod. Corp.'s Hillmer 1, lcn. R. B. Pender et al's Davis 1, rig.

STERLING COUNTY—Manhattan Oil Co. et al's Ellwood 1, dr 3505 ft.

STONEWALL COUNTY—Sun Oil Co.'s Rayner 1, rig.

SUTTON COUNTY—Phillips Pet. Co.'s Holman 1, dr 3505 ft.

TERRELL COUNTY—Big Bend Oil Corp.'s Bassett 1, sp and sd. Champlin Ref. Co.'s Carter 1, elev 2884 ft, cem crevice, td 3552 ft. Milham Corp.'s Bassett 1, elev 2270 ft, dr 4005 ft. Keck-Pecos Oil Trust's Hamilton 1, sd 1425 ft.

UPTON COUNTY—Buell-Hagen et al's Robbins 1, elev 2570 ft, top salt 570 ft, dr 1555 ft. Cordova Union Oil Corp.'s Fee 1, dr 1175 ft. F. P. Zoch et al's Union-Murphy 1, elev 2538 ft, top salt 565 ft, top lime 2015 ft, dr 2070 ft.

VAL VERDE COUNTY—Val Vert Oil Corp.'s Bassett 1-A, sp and sd.

WARD COUNTY — Denver Prod. & Ref. Co.'s Cherokee Fee 1, sd 2490 ft. E. B. Lovelace et al's Redman 1, lcn. Rector Oil Co. et al's Johnson 1, lcn. Shipley et al's Hayslett 1, sd 900 ft.

WINKLER COUNTY—V. T. Bolin & Co.'s Brown 1, elev 2847 ft, top salt 1302 ft, sd after shot, td 3211 ft; Brown 2, dk. Empire Gas & Fuel Co.'s Daugherty 1, dr 1415 ft. Arizona Mining & Eng. Co.'s Hendrick 1, elev 2759 ft, top salt 1390 ft, top lime 2607 ft, dr 2685 ft. Roxana and Llano Oil Co.'s Scarborough 3, elev 2939 ft, top salt 1280 ft, top lime 2958 ft, dr red shale and lime 3216 ft. Sid Richardson and White Eagle et al's O'Brien-Stockton 1, elev 2729 ft, dr 1920 ft. T. P. Coal & Oil Co.'s Daugherty 1, elev 2881 ft, top salt 1460 ft, top lime 2894 ft, dr 3025 ft.

SOUTH LOUISIANA

Completions

Company, well and Location	Initial Production Bbls.	Depth
CAMERON PARISH—		
Calcasieu Oil Co., Magnolia, and Union Sulphur Co.'s Watkins 8, Kelso Bayou	1500	3909
IBERIA PARISH—		
La. Land & Explo. Co., Vermillion Bay A-2	*	3750
ST. MARY PARISH—		
J. Dannenbaum, Viguerie 1, Charenton Beach	*	3215

ACADIA PARISH—E. F. Simms' Clement 1, Jennings(fsh 3880 ft.

ASCENSION PARISH — Gulf's United Lands Co. 8, Sorrento, ru. Triumph Oil Corp.'s Lacey 1, 1½ mi se Sorrento, sd 2575 ft. Baton Rouge Pet. Co.'s Liotta 1, dr 655 ft, sand.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 729, Sulphur, dk; Fee 728, Sulphur dome, dr 5045 ft, water sand; Fee 730, Sulphur dome, dr 4740 ft, gumbo; Kelly 1, Sulphur dome, dr 4620 ft, sand; Fee 731, dr 400 ft; Fee 732, ru. Lehay et al's Jones 2, dr 1478 ft, sand.

CAMERON PARISH—Pure's Sweet Lake 2, Sweet Lake, wtg on orders; Sweet Lake 3, Sweet Lake, sdtrk 6017 ft; Sweet Lake 4, Sweet Lake, flowing 285 bbls per day; Sweet Lake 5, Sweet Lake, flowing 3650 bbls; Sweet Lake 6, dr 1540 ft, gumbo. La. Land & Explo. Co.'s Calcasieu Lake B-2, & mi ne Kelso dome, dr 4142 ft, salt; Calcasieu Lake A-2, Kelso Bayou dome, dr 1575 ft, anhydrite. Calcasieu Oil Co., Magnolia, and Union Sulphur Co.'s Watkins 8, Kelso Bayou dome, completed at 3909 ft for initial of 1500 bbls oil; Watkins 9, Kelso Bayou, dr 3900 ft; Watkins 10, dr 3625 ft; Watkins 11, Kelso Bayou, dr 3450 ft sandy lime; Doiron 3, set cas at 4016 ft; Valery 2, tested dry at 3949 ft, will deepen. Yount-Lee Oil Co.'s State Land 14, Kelso Bayou, fsh at 675 ft; State Land 15, Kelso Bayou, lcn; State Land 16, Kelso Bayou, losing returns at 900 ft; State Land 17, Kelso Bayou, lcn. Roxana's Watkins 3, Black Bayou district, moving in, setting up boilers on barge.

IBERIA PARISH—La. Land & Explo. Co.'s Vermillion Bay A-2, abn in salt at 3750 ft; Avery Island 2, ru. Gulf's State Z-5, Loreauville, dr 1000 ft.

IBERVILLE PARISH—Roxana's Wilbert 2, White Castle, dr 3642 ft, sandy lime rock. Standard of La.'s Wilbert 1, spudded.

JEFF DAVIS PARISH—Welch Pet. Co.'s Purveiance 1, Welsh, dr 4460 ft, gumbo.

LA FOURCHE PARISH—Gulf's Stark 5, Thibodaux, fsh 1130 ft.

PLAQUEMINE PARISH—Gusher Bill O. & G. Co.'s Park Plantation 1, sd 2050 ft.

ST. MARTIN PARISH—Rycade's Bayou Boullion 3, dr 866 ft, sand and gravel; State 1, Bayou Boullion, set cas at 3074 ft; Martin 1, Bayou Boullion, dr 4865 ft, hard sand and lime. Yount-Lee Oil Co.'s Louisiana Pet. Co. 2, Anse La Butte, dr 3920 ft, sand and shale. Bowie O. & G. Co.'s Begnaud 4, Anse La Butte, co. A. G. Broussard's Bergeron 2, Anse La Butte, dr 1300 ft.

ST. MARY PARISH—J. Dannebaum's Viguerie 1, Charenton Beach, abn at 3215 ft.

WEST BATON ROUGE PARISH—Crosse Tete O. & G. Co.'s Wilbert 1, td 1325 ft.

WEST FELICIANA PARISH — Foster & Roberson's Raccourci 1, sd.

SOUTHWEST TEXAS

Completions

Company, well and Location	Initial Production Bbls.	Depth
MAVERICK COUNTY—		
Rycade Oil Corp., Chittam 1, Eagle Pass dist.	*	5630
DUVAL COUNTY—		
R. Driscoll, Fee 12	¶	2899
CALDWELL COUNTY—		
Cranfill & Reynolds, Starcke 2, w Lockhart	600	1200
JIM HOGG COUNTY—		
T. P. Morgan, Hinnant 5	¶15	2088

CALDWELL COUNTY—Radcliff et al's Briscoe 1, 3 mi ne Luling, td 3000 ft. Detex Oil Co.'s August 1, Branyon dist, dr 2975 ft, Edwards lime. Luling O. & G. Co.'s Carter 2, fsh 2865 ft. Roxana Pet. Corp.'s Jolly 3, 2 mi w Lockhart, set 6⅝-inch at 1260 ft; Jolly 4, 2 mi w Lockhart, lcn; Schaffer 1, 2 mi w Lockhart, lcn; Starcke 1, 2 mi w Lockhart, lcn; Starcke 2, 2 mi w Lockhart, lcn; Starcke 4, 2 mi w Lockhart, lcn. T. C. Hadley's Wilson 1, set surface cas. Lu Tex Oil Co.'s Davis 2, dr 1455 ft, shale. Suttle et al's Malone 1, spd. M. R. Armstrong et al's Martin 1, dr 1300 ft. Cranfill & Reynold's Starcke 1, w Lockhart, completed at 1300 ft, swabbing 70 bbls; Starcke 2, w Lockhart, swabbing 25 bbls per hour at 1286 ft; Starcke 3, w Lockhart, dr 900 ft. O. W. Killam's Blanks 1, dr 875 ft, chalk.

DUVAL COUNTY—National Oil Co.'s Ball 1, dr 3370 ft, shale. R. Driscoll's Fee 12, completed as big gas well at 2899 ft.

HIDALGO COUNTY—Dale Smith's Daskan 1, td 3780 ft. Queen City O. & G. Co.'s American Land & Irrig. Co. 2, 3 mi n Mercedes, repairing dk, td 700 ft.

JIM HOGG COUNTY — Edw. St. Albans' Holbein 4, blk 34, share 3, Las Animas grant, lcn; Holbein 3, abn at 2182 ft.

JIM WELLS COUNTY—Cushing Oil Co.'s Perez 2, 3 mi n Alice, dr 100 ft.

KINNEY COUNTY—Stephens et al's Clamp 1, sd 1515 ft.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittam 2, Eagle Pass, dr 6905 ft; Chittam 1, abn, td 5630 ft, fsh job at 3860 ft; Sullivan 3, Eagle Pass, dr 1320 ft, lime rock. Ryan Consolidated's India Land Co. 1, 24 mi se Eagle Pass, dr 4588 ft.

NUECES COUNTY—May et al's Gallagher

Patent Situation on Sand Testing Tools

Do not be disturbed by the threatening infringement notices being broadcast by certain of those engaged in the testing of oil wells. The United States Patent Office has not as yet issued a patent on the method and apparatus first introduced by Halliburton about three years ago and no one but Halliburton has any moral right to use the same

ERLE P. HALLIBURTON COMPANY

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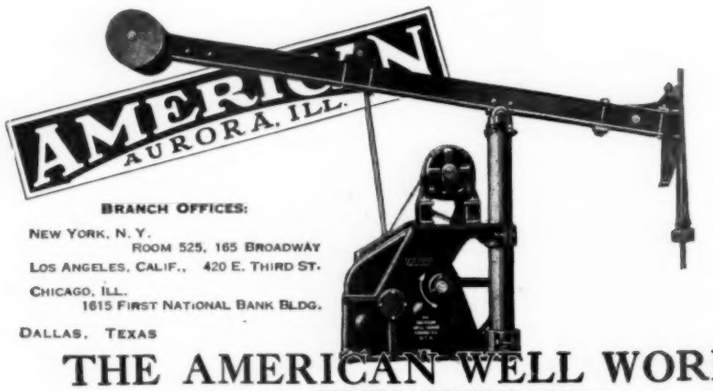

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General Offices AURORA, ILLINOIS and Factory

1, 12 mi w Corpus, dr 1200 ft, shale. Grimm & Morris' Garrett 1, Aqua Dulce, tested sand showing gas at 2010 ft.

STARR COUNTY—The Texas Co.'s Guerra 1, near Roma, dr 4514 ft, hard sandy shale.

VAL VERDE COUNTY—East Del Rio's Weatherbee 1, no report. Thraves et al's Wilson 1, sd 1125 ft. Valvert Oil Co.'s Bassett A-1, spudded.

TEXAS GULF COAST

Completions

Company, well and Location	Initial Production Bbls.	Depth
FORT BEND COUNTY—		
Gulf, Moore 16, Moore's Field.....	700	2825
BRAZORIA COUNTY—		
Roxana Pet. Corp., Randon 1, Allen Dome	60	5584

AUSTIN COUNTY—Humble's Gotosky 3, Raccoon Bend, dr 2902 ft sand and shale; Bracey 1, Raccoon Bend, set 6⅝-inch cas at 3330 ft; Sanders 1, Raccoon Bend, dr 920 ft. L. H. Weadock's Ward 1, sd 2260 ft. Gulf's Jackson 1, near Sealy, ru.

BRAZORIA COUNTY—Roxana's Randon 1, Allen Dome, flowing 60 barrels oil plus 30 per cent bs and water at 5584 ft; Poole A-2, Allen Dome, dr 4462 ft sandy shale and lime. D. J. Harrison's Perry 1, Stratton Ridge, set surface cas. Heinke et al's Dannenbaum 1, Stratton Ridge, tem abn at 1150 ft.

CHAMBERS COUNTY—Pure Oil Co.'s Old River 1, Lost Lake, dr 3962 ft, gumbo; Lost Lake 1, Lost Lake dome, fsh at 3375 ft; Lost River 1, Lost Lake dome, dr cap rock 4697 ft; Trinity River 1, Lost Lake dome, dk; Lost River Lake 1, Lost Lake dome, dk; Cut-Off Bayou, Lost Lake dome, dk. R. L. Bartlett's Fisher 1, Barbers Hill, sd, td 2160 ft.

COLORADO COUNTY—Rich Oil Corp.'s Von Rosenberg 1, 2½ mi ne of Columbus, sd 2697 ft; Wallace 1, 1½ mi n of Alleyton, sd 1375 ft. Humble's Harbert 1, 2 mi se Altair, dr 685 ft, shale. U. S. Oil & Gas Co.'s Swank 1, 6 mi s of Rock Island, sd 2700 ft.

FORT BEND COUNTY—Sun Oil Co.'s E. C. Farmer 3, Boling, dr 3130 ft, sand rock. Goldsmith et al's Bartels 1, Needville, dr 1145 ft, w sand. Gulf's Trone 9, Long Point, lcn; Wolf 10, Long Point, dr 800 ft, gyp; Moore 16, Moore's Field, completed for 700 bbls initial production at 2825 ft; Moore 17, Moore's Field, dr 450 ft. Humble's Sugarland Industries 3, Sugarland dome, dr 2515 ft, hard sand; Deathridge 1, Sugarland dome, cemented cas at 3811 ft; Camp 1, Sugarland dome, dr 1771 ft, rick; Dew 1, Sugarland, dk; Sugarland Industries 2, Sugarland dome, pulling screen, td 3411 ft. J. H. Diehl's Armstrong 1, 2 mi e Boling, sd 475 ft. The Texas Co.'s E. Farmer 1, Boling, dr 4460 ft, shale; Bushnell 1, Boling, dr 1500 ft sand and boulders.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, Dickinson, dr sand at 2552 ft.

HARDIN COUNTY—Chappel Hill Oil Co.'s Hale 1, 5 mi nw Sour Lake, sd 1810 ft. Guedry Drilling Co.'s Guedry 1, 3 mi s Batson, dk. The Texas Co.'s Cruse 1, Batson, dr 3550 ft.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, ru. J. A. Hautier's Grouse 1, Green's Bayou, dr 2900 ft, lime. Hunt et al's Lobit 1, 4 mi n Goose Creek, td 2150 ft, sdtk at 1300 ft. Humble's Warren 4, Hockley, dr 4121 ft, sand and shale; Minnatex 1, Mykawa, ru. Cedar Bayou Oil Co.'s Johnson 1, 8 mi n Goose Creek, dr 2752 ft, gumbo. The Texas Co.'s House 21, Humble, dr 3716 ft, shale. Drummett et al's Brock 1, Almeda, dr 4548 ft, shale. M. & S. Oil Co.'s Cook 1, 2 mi ne Crosby, dr 2683 ft, gumbo. Brains et al's Lentze 1, 4 mi s Tom Ball, sd 1120 ft. Mrs. Baldwin et al's Kitsman 1, 2 mi n Cypress, sd 1925 ft.

JEFFERSON COUNTY— Deep Test Oil Co.'s McFaddin 1, 4 mi ne Spindle Top, sd 2175 ft. Gulf's Bordages 6, Fannett, td 4540 ft, pulling screen. So. Spindle Top O. & Dev. Co.'s Young 1, 1 mi w Nederland, sd 3425 ft. Port Arthur O. & Dev. Co.'s West 4, Westbury, temp abn at 4740 ft. A. M. Deems et al's Mashman 2, 1 mi s Voth, lcn. The Texas Co.'s Gladys City 1, Spindle Top, dr 5465 ft. Beaumont Oil Co.'s Tyrrell 1, 2 mi w of Brooks, dk.

LIBERTY COUNTY—Barlow et al's Minchcliff 1, 2¼ mi ne Cleveland, sd 2215 ft. Big Dome Interests' Finley 1, 2½ mi nw Hardin, set cas at 3236 ft; Finley 2, dk. Humble's Ster-

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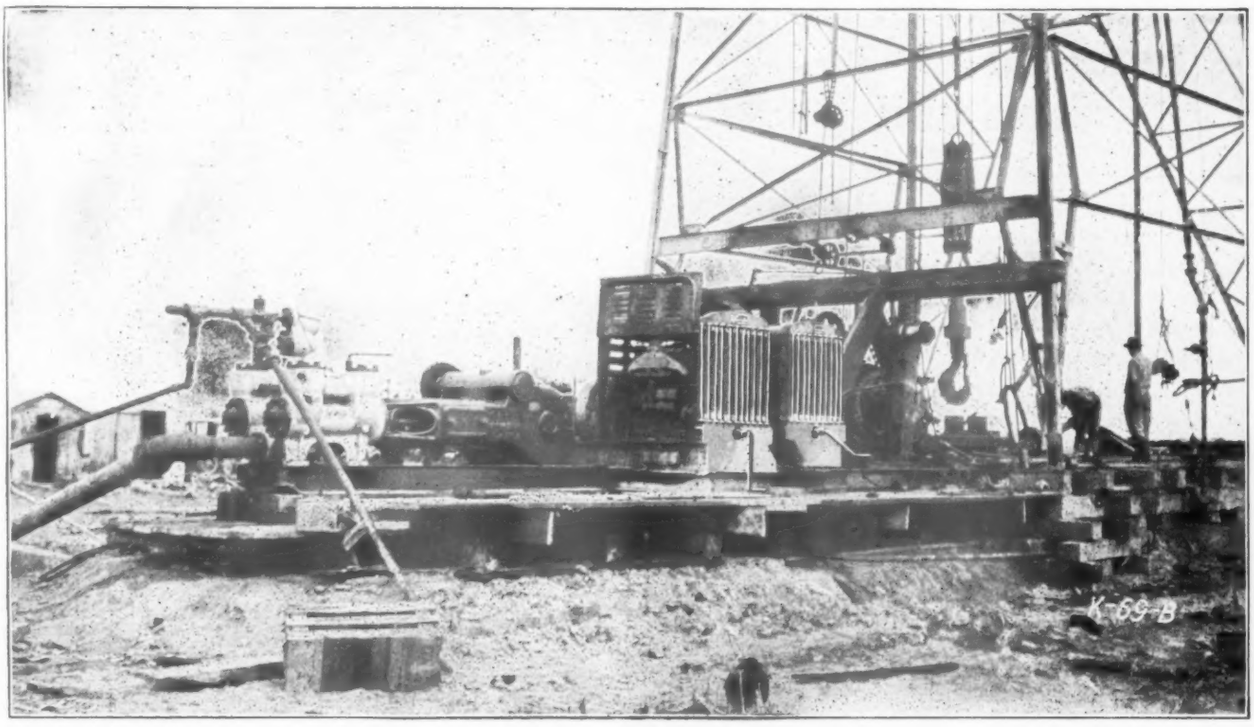

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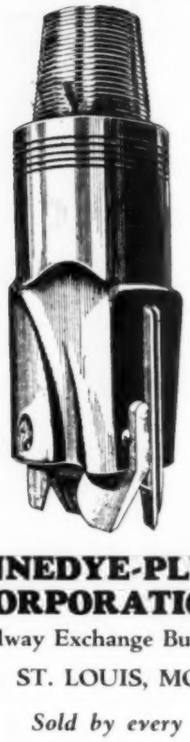

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ling 2, Moss Bluff, sdtk at 1919 ft; Welder 8, S. Dayton, dr 3709 ft, shale. Sun Oil Co.'s Kyle 1, Moss Bluff, dr 1900 ft, gumbo.

MATAGORDA COUNTY—Matagorda County Dev. Co.'s Hawkins 1, Bay City, sd 1985 ft. Dr. P. S. Griffith et al's Robbins 1, e Citrus Grove, dr 1740 ft, gumbo; Baer 1, 1¼ mi n Gulf Hill, dr 1428 ft, gumbo.

WALLER COUNTY—J. R. Young's Fee 2, 10 mi s Hempstead, dr 1435 ft, shale.

WASHINGTON COUNTY—Sun Oil Co.'s Shirmer 1, Brenham, dr 4200 ft, rock; Crote 1, 12 mi n Brenham, lcn.

ARKANSAS

ASHLEY COUNTY—Atlantic O. P. Co.'s Moffatt 1, 28-16-8, dr 450 ft. J. G. Marcum et al's DeYampert 1, nw ne 5-19-14, lcn. Texas Co.'s Gay 1, 32-16-4, rigging up.

BRADLEY COUNTY — Ohio Oil Co.'s Southern Lbr. Co. 1, 15-16-10, dr 1660 ft.

CHICOT COUNTY—S. D. Hunter et al's Lytle 1, 9-19-3, dr 3002 ft. Mid-American Pet. Co.'s Cashion 1, 14-18-2, dr 1510 ft; Meyer 1, 14-19-2, rigging up. Texas Co.'s Hammond 1, 23-17-2, rigging up.

CLEVELAND COUNTY—Arkansas Nat. Gas Co.'s T. J. Pate 1, ne ne 4-9-4, lcn.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, sd 3462 ft.

LOGAN COUNTY — Arkansas Nat. Gas Corp.'s Parks 1, 26-8-24, dr 650 ft.

JOHNSON COUNTY—Arkansas Nat. Gas Corp.'s Bynum 1, 13-10-24, dr 1510 ft; O. L. Hudson 1, 14-10-24, dr 300 ft; W. C. Hudson 1, 14-10-24, dr 450 ft; Kerwin 1, 16-10-24, dr 1800 ft.

UNION COUNTY—Stark et al's Powell 1, sw sw 35-18-15, lcn. Tharpe Drlg. Co.'s List 1, sw nw 25-17-15, lcn. Morefield & Ttate's Smith 1, 6-18-13, dr 550 ft. Imperial O. & G. Co.'s Central Bank 1, dr 3100 ft. E. M. Jones' Stegall 2-B, 18-18-14, rigging up. Joe Marr's Sloan 1, 14-17-15, sd 3392 ft. McDonald Bros.' Mayfield 1, 29-19-15, dk. R. J. McMurray's Hale 1, 23-19-15, coring 2693 ft.

NORTH LOUISIANA

BIENVILLE PARISH — S. P. Borden, Trustee's L. & A. Oil Co. 2, 1-15-8w, sd 1982 ft.

BOSSIER PARISH—Bruten et al's Albritton & Douglass L, 1-22-14, rigging up. H. S. Godwin's McDade 1, sd 2470 ft. Arkansas Nat. Gas Co.'s Wilkerson 1, 1-22-11, dr 100 ft. Doern et al's Bollinger 1, 9-22-11, sd 3900 ft. R. O. Roy's Werner 1, 7-17-11, dk.

CADDO PARISH—Gulf Ref. Co.'s Albritton 1, 1-18-15, dr 603 ft. Tubbs et al's Hines 1, 9-14-16, sd 2930 ft. Warren & Caruther's Berry 1, 26-15-15, dr 1205 ft. Gulf Ref. Co.'s Attaway 1, 11-18-15, dr 586 ft.

CLAIBORNE PARISH—C. F. Lue's Taylor 1, 29-22-6, rigging up.

DE SOTO PARISH—R. O. Roy's Whittaker 1, 4-13-13, work over. Ruesdale et al's Nabors 1, sd 2430 ft.

EAST CARROLL PARISH—Palmer Corp.'s Carroll Land Co. 1, 21-19-11, ready to drill; Hamley 1, 27-20-11, dr 2800 ft.

MADISON PARISH — Mid-American Pet. Co.'s Yerger 2, ne nw 51-16-14e, lcn.

MOREHOUSE PARISH — Gulf Ref. Co.'s Higginbotham 1, 42-20-7, dr 3400 ft; School Fee 1, 16-18-16, dr 2305 ft; Chess Wymond 1-A, 7-18-16, dr 2665 ft. Texas Co.'s Huff 1, 36-23-7, dr 3003 ft; Meyers 1, 15-222-7, r 2939 ft. Woodley Pet. Co.'s Bonita Lbr. Co. 1, 3-22-9, dr Elbert Pet. Co.'s Morehouse 1, 40-19-7e, dr 2659 ft.

NATCHITOCHES PARISH—Robeline O. & G. Co.'s Cassady 1, 7-8-9, dr 978 ft. S. D. McDaniel's Clark Morse Lbr. Co. 1, 23-5-6w, sd 2504.

RAPIDES PARISH—G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

SABINE PARISH—W. G. Doern et al's Pickering 1, 17-4-11, dr 3510 ft. L. M. Emlet's Bowman-Hicks 7, 14-7-14w, sd 4008 ft; Mansfield Lbr. Co. 1, 15-7-14w, dr 3519 ft; Sabine Lbr. Co. 1, 8-7-13w, dk. A. F. Halliday's Logan A-2, 23-10-13, dr 3352 ft.

TENSAS PARISH—Enoch's et al's Curry 1, 39-11-12, dr 250 ft.

WINN PARISH—Calvin Oil Co.'s L. & A. Oil Co. 2, 9-11-4w, dr 800 ft. Humble O. & R. Co.'s L. & A. Oil Co. 24-A, dr 690 ft.

MONTANA

BLAINE—Ohio Oil Co.'s No. 1 Winngert, 3-34n-22e, dr 975 ft.

CASCADE—Winther et al's Roth 1, sw 11-22-1e, dr 2450 ft.

CARBON—Ohio Oil Co.'s Northern Pacific 1, 11-7s-21e, dr 4428 ft.

CHOTEAU—Williston-Shelby's Flack 1, se 12-28-11e, dr 2240 ft.

GARFIELD—Carroll Bros., ne 6-14n-31e, dr below 950 ft.

HILL—Jones Oil Co.'s Mangnell 1, 32-32-14, will use as water well. Jones Oil Co.'s Mangnell 2, nw 32-34-14, rig. McFarland et al, Boxelder 1, sw 15-30-13e, dr 2100 ft.

PONDERA—Calpet, Kingsbury 1, sw 15-27-4w, completed at 2000 ft. Texas-Pacific Coal & Oil Co., Hirschberg 3, 14-27-4w, dr 1300 ft. McCracken et al's Gjullin 1, 10-27-4w, dr 200 ft. Peerless Dev. Co.'s State 1, sw 16-27-3w, dr 1500 ft. Fulton Pet. Corp.'s State 2, nw 16-27-4w, dr 1380 ft. Texas Pacific's Hirschberg 4, sw 14-27-4w, rig up. W. E. Rice's Copley 1, se 15-27-4w, dr 100 ft. W. E. Rice's State 1, ne 16-27-4w, completed at 2002 ft. Continental Dev. Co.'s Gjullin 3, nw 15-27-4w, dr 600 ft. Continental Dev. Co.'s Wheeler 1, sw 14-27-4w, dr 1000 ft. Calpet's Kingsbury 2, sw 15-27-4w, rig up. Calpet's Pondera Valley St. Bank, ne 15-27-4w, rig up. Ohio Oil Co.'s Carlson 1, 12-26-1e, dr 1000 ft. Calpet's Continental Dev. Co.'s Gjullin 4, 15-27-4w, rig up. W. S. Hawley et al's State 1, 16-27-4w, rig up. Fulton Pet. Corp.'s State 3, 16-27-4w, rig up. Ohio Oil Co.'s Hirschberg 2, 15-27-4w, rig up.

TETON—Elkhorn O. & G. Co., ne 12-24-1e, sd 125 ft. "56" Pet. Corp.'s Speer 1, ne 4-25-1e, 20 bbls. at 1557 ft. Mitchener et al, Willick 1, ne 18-24-1e, sd 1625 ft. C. L. Archer et al, 1, se 31-26-1e, test 1540 ft. Hardrock Oil Co., Speer 2, sw 5-25-1e, prod 10 bbls at 1490 ft. Fulton Pet. Corp.'s Hirschberg 1, ne 22-27-4w, lcn. Salpet, Munson 1, rig up.

WYOMING

BIG HORN—Utah Southern Oil Co., 3, 29-56n-97w, dr 3555 ft. Producers & Refiners 3, 24-56n-98, td 2555 ft. Cross Gas Co., cas cem 1934 ft. Ohio Oil Co., Cross Gas w, dr 3300 ft. C. F. Robertson 1, 19-54-93, recm td 1116 ft.

CARBON—Graybeal Dome Synd., 16-28n-80w, 6¼-in run to 4600 ft. Indian Pete Corp., 2-17n-89w, dr 200 ft. Lawrence Leuthart, Pacific-American 1, 32-25n-89w, spdg. Portland Dome Synd., 28-26n-86w, cleaning out at 3600 ft.

CROOK—H. D. Curtis, 5-53n-65, rig.

CONVERSE—Hollingsworth & Gorham, ne 8-32-72, water at 800 ft.

FREMONT—Producers & Refiners, Muskrat 1, 34-34-92, 5 M gas at 4300 ft. Texas Production Co., Alkali Butte 1, 1-33-95, dr 3925 ft. Martin Falk, 9-31n-98w, dr red shale 2500 ft.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, bldg roads.

JOHNSON—Fairway Oil Co., Crazy Woman 1, 7-47-82, reported to resume 2367 ft.

LINCOLN—Midwest Explo. Co., Waterfall 1, sw 35-22-113, dr 970 ft. Quad States Enterprise, Inc., 11-19n-116w, dr bel 1100 ft. Susie J. Quealey, 20-21n-115w, dr bel 100 ft. Midwest Refining Co., se 36-37-117, building roads. Fontenelle Oil Co., ne 1-24n-113w, prep to resume.

NATRONA—M. C. Wesiman, ne 1-36-82, dr 300 ft.

NIOBRARA—Buck Creek Oil Co., 4-36n-62w, cmtd 6¼-in.

PARK—Calif. Explo. Co., 1A, 29-48-103, dr 2500 ft. Fred Ostland, Hoodoo Ranch 1, 23-51-102, td 1740 ft. E. H. Rosenburg, 25-58n-98w, oil at 2585 ft. Calif. Explo. Co. and P. & R., Pitchfork 1, 14-48n-102w, fsg tools at 780 ft. Ohio Oil Co., 27-52-100, dr 3690 ft. Lenco Pete Co., 27-52-100, sd 100 ft. Ydoc Oil Co., ne 6-15n-101w, sd 735 ft. Union of Calif., Taylor 1, 22-47-101, co 3780 ft. N. F. Clark et al, se 11-49n-102w, set 12½-in at 1570 ft. Resolute Oil Co., nw 17-57-101, dr 1450 ft. S. C. Ferdig, Nelson 1, 4-51-102, rig up.

SUBLETTE—California interests, 17-27-113, moving in. California Co., Wyss 1, 12-32n-115w, dr 420 ft. California Co., Buchnell 2, 11-29n-115w, dr 1170 ft.

SWEETWATER — Prairie O. & G. Co., Tucker 1, 18-13-99, dr 2315 ft. Ohio Oil Co.,

Posten 2, 22-16n-99, dr 400 ft. Sormir Pete Corp., 13-21-100, stand 1330 ft.

UINTA—A. R. Johnson, 1, nw 2-14n-118w, dr 700 ft. C. L. McWherter 1, 11-14n-118w, rig up. Minton et al, 2, sw 8-18n-116w, dr 600 ft. Cooper et al, 1X, 18-18-117w, resumed at 300 ft. H. Allen Rispin, se 5-16n-117w, spudded and dr ahead. A. J. Whiteman, ne 18-16n-117w, attempting water shutoff at 820 ft. Druscilla Connell, 4, 23-15n-118w, re-run pipe at 800 ft. Oscar Peterson Oil Co., Osborne 1, 22-15n-118w, fsg bailer 599 ft.

WESTON—Wyoming Drilling Syndicate, ne 15-54n-64w, dr 2300 ft.

NEW MEXICO

CHAVES—Snowden & McSweeney, Merchant 1, nw 27-15s-23e, dr 1650 ft. R. E. Neal et al, Russell 1, 21-14s-25e, sd 495 ft. Warman et al, 1, sw 23-13s-24e, wait for 12½-in at 130 ft.

DE BACA—Matador Oil Co., State 1, sw 6-4n-20e, dr 514 ft. Navajo Oil Co., McAdoo 1, ne 16-1s-27e, td 4190 ft., waiting adjustments.

GAUDAULPE — Navajo Oil Co., Goard 1, 10-3n-17e, run 8¼-in to 2555 ft.

LEA—Midwest Ref. Co., State 1, 9-19s-39e, test at 4100 ft; Farnsworth 19, 12-26-37w, stand cmtd at 2800 ft. Marland, Eaves 1, 19-26-37, fsg tools 3000 ft; Sholes 1, 19-25s-37e, fsg tools 3034 ft; Lynn 1, 26-23-36, dr 310 ft; King 1, ne 26-25s-32e, mvg in; Brooks 1, sw 8-20s-33e, mvg in; Danciger 1, 7-23-36e, fsg tools 300 ft. Empire, State 1, 8-21s-35e, testing at 3835 ft. Gypsy, State 1, 34-21s-36e, standing 3072 ft. Exploration Co., Record 1, ne 26-19s-35e, td 4556 ft. Morton et al, State 1, ne 32-11s-38, rig up. Texas Prod. Co., Sheppard 1, ne 6-26s-37e, rig. Texas, Eagle 1, sw 9-26s-36e, connecting fuel line; Moberly 1, se 17-26s-37e, rigging up. Brodages et al, Hughes 1, 27-19-18e, swedging 8¼-in, td 3567 ft. Burtis Dr. Co., Nixon, 22-18s-34e, hd 800 ft. C. E. Reynolds Dr. Co., Anderson 1, 29-13s-37e, dr 1735 ft. Cranfill & Reynolds, Wilson 1, ne 23-25s-36e, lcn; State 1, se 23-26s-36e, ready to spud. Skelly Oil Co., 1, se 26-25s-36e, dr 255 ft. Rector Oil Co., 1, sw 5-26e-33e, lcn.

SAN JUAN—Continental Oil Co., Munoz 17, 2-29-19, bailer trouble 5810 ft. Huntington Park Oil Co., 29-30-9, gas escap with show of oil. Huerfano Oil Co., Wiltbank 1, 25-29-11, stndg 800 ft. San Juan Pet. Co. 1, 9-29-13w, sd 2950 ft. Kirtland Drilling Co., Hunt 1, 10-29-15, dr 450 ft. Kutz Canon O. & G. Co., Day 1, 29-28-11, td 270 ft. Midwest Ref. Co., State 1, se 36-22n-14w, dr 895 ft. Blackrock Oil Co., 1, sw 11-25n-13w, dr 565 ft.

SAN MIGUEL—E. Adams et al, Deason 1, 14-15n-16e, sd 1235 ft. H. E. Hoover Co., Sanguijuela 1, se 18-17n-17e.

COLORADO

ARCHULETA—Juanita Oil Co.'s Harvey 1, sw 4-32n-3w, ready to sp.

BENT—Marland Oil Co.'s Pipe Springs 1, se 27-29s-49w, dr 2200 ft.

JACKSON—Producers & Refiners' Hendershot 1, ne 2-26n-81w, dr 725 ft.

JEFFERSON—Wood et al's 1, 30-3s-69, sd 3000 ft.

LAS ANIMAS—Reiter-Foster and Phillips Pet., 23-29n-56, dr 2714 ft. Alavier Pet. Co.'s Branson 1, ne 3-35s-58e, ready to sp.

LA PLATA—Childers Dr. & Pr. Co.'s Dry Mesa 1, 29-32n-14w, sd 687 ft. Royal P. & Ref. Co.'s Red Mesa 1, 27-33n-12w, rig.

LINCOLN—Kelly Oil Co.'s 1, nw 36-14s-57w, dr 720 ft.

MESA—Eureka Oil Co.'s Holly 2, 24-1s-13, sd 925 ft. Peerless Oil Co.'s Hoel 1, ne 23-8s-104, prep to deepen from 2058 ft.

MORGAN—Badger Creek O. & D. Co.'s Kent 1, sw 2-2n-57w, dr 530 ft.

MONTROSE—Uncompahgre O. & G. Co.', nw 27-50n-10, rig up.

MOFFAT—Reiter-Foster's State 1, 16-12-100, sd 2240 ft. Yarg P. & R. Co.'s 205, 26-4n-92w, 4¾-in set on bottom. Alliance Oil Co.'s Milliken 1, 14-4n-92w, dr 3340 ft., showing gas. McCormick et al's Sales 1, se 28-4n-92w, dr 1960 ft.

RIO BLANCO—Texas Prod. Co.'s Freeman 1, 27-3-94, water trouble 5875 ft. Argo Oil Co.', se 9-2s-96w, prep to sp. Union of Calif.'s U. S. Consol 1, 10-2n-88w, dr 700 ft.

ROUTT—Great Western Oil Co.'s State 1, 17-60n-56w, sd 2475 ft.

YUMA—Etnyre Synd., sw 7-2s-43,sd 900 ft.

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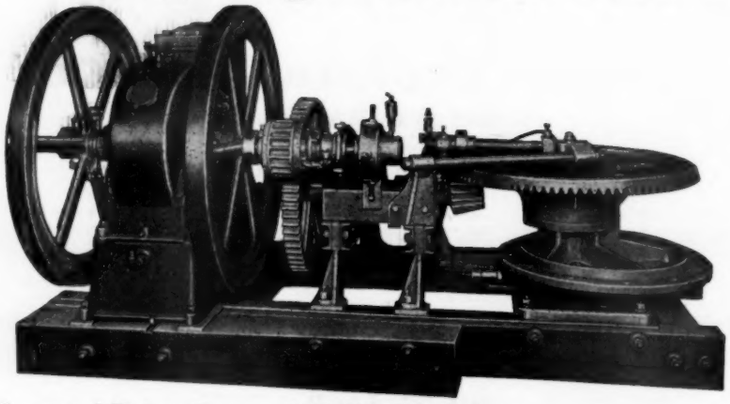

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OKLAHOMA

WOODS COUNTY—T 28n, R 18w, Sec. 11, Geo. Vincent et al's Freedom 1, c sw, ponds.

HARPER COUNTY—T 27n, R 21w, Sec. 24, A. F. Kopisch Oil Co.'s Selman 1, nec se, spudded and sd.

WOODS COUNTY—T 27n, R 15w, Sec. 20, State Oil Co. & E. R. Black's Marcum 1, c sw, spudded and sd.

GRANT COUNTY—T 27n, R 5w, Sec. 18, J. W. Bailey's Custard 1, c se, ts 4835-60 ft 800,000 gas, ts 4878-83 ft slight increase in gas, dr 4984 ft. T 26n, R 4w, Sec. 34, Sooner State Oil Co.'s Rayce 1, swc nw, sd 550 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent & National Union Oil Co.'s McNeal 1, nwc ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co.'s Cooper 1, nwc se, sd 4182 ft, litigation.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollner 2, nec se ne sw, lost tools 5640 ft, sd.

KAY COUNTY—T 25n, R 1w, Sec. 15, Tonkawa Dev. Co.'s McDaniels 1, sec, td 4700 ft, small show gas, put on control head.

NOBLE COUNTY—T 24n, R 3e, Sec. 11, Geo. Miller et al's Howe 1, c nw se, dr 2104 ft. T 29n, R 1w, Sec. 32, Marland Oil Co. et al's Kidd 1, nwc sw, Wilcox sand 5196-5200 ft, true Wilcox 5283-5290, td, sd to plug.

TEXAS COUNTY—T 1n, R 18 E. C. M., Sec. 11, Three Way Oil Co.'s Price 1, sec nw sd 3490 ft.

WOODWARD COUNTY — T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, sd 4755 ft, will aband.

ELLIS COUNTY—T 21n, R 25w, Sec. 9, Oklahoma Northern Oil Co.'s 1, c se nw, sd 300 ft.

WOODWARD COUNTY — T 21n, R 19w, Sec. 15, Burgoyne Bros.' 1, swc se ne, td 1845 ft, sd. T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, rig blown down, td 3025 ft.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland Oil Co.'s Looman 1, nec se, sd 5735 ft, csg parted. Sec. 12, Marland Oil Co.'s Miller 1, swc, sd 4586 ft.

DEWEY COUNTY—T 18n, R 15w, Sec. 9, Huckleby & McCoy's Perfect 1, nec, ur 5-inch csg 4365 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drilling Co.'s Quier 1, sec sw, fsh bailer 3945 ft. T 18n, R 2w, Sec. 21, Tibbetts & Bond et al's Donohue 1, swc nw se, rigging up rotary tools. T 17n, R 1e, Sec. 28, T. B. Slick's Berry 1, sw se, td 5730 ft hfw, pb to 4700 ft shot 20 qts 4656-78 ft, shot 20 qts 4656-78 ft, swab 6 bbls.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Gault Brown Oil Co.'s Campbell 1, c nw se, sd 4516 ft. T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, nec sw, sd 4509 ft.

BLAINE COUNTY—T 15n, R 12w, Sec. 26, W. J. Donley's Dickens 1, sec ne, fsh ur lugs, td 2400 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, swc ne, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 10, T. B. Slick & Bailey's Lufkin 1, c ne se, sd 4510 ft. T 12n, R 3w, Sec. 15, Cromwell et al's Thompson 1, swc ne ne, dr 6932 ft.

OKLAHOMA COUNTY—T 11n, R 3w, Sec. 24, I. T. I. O. Co.'s Park 1, c se se, est. 25M gas 3996-4013 ft, dr 4382 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. M. V. Bailey's Robinson 1, c ne nw, spudded and sd.

OSAGE COUNTY—T 25n, R 6e, Sec. 25, Amerada's 1, ne cor sw, td 1490 ft, fsh 12½-inch csg.

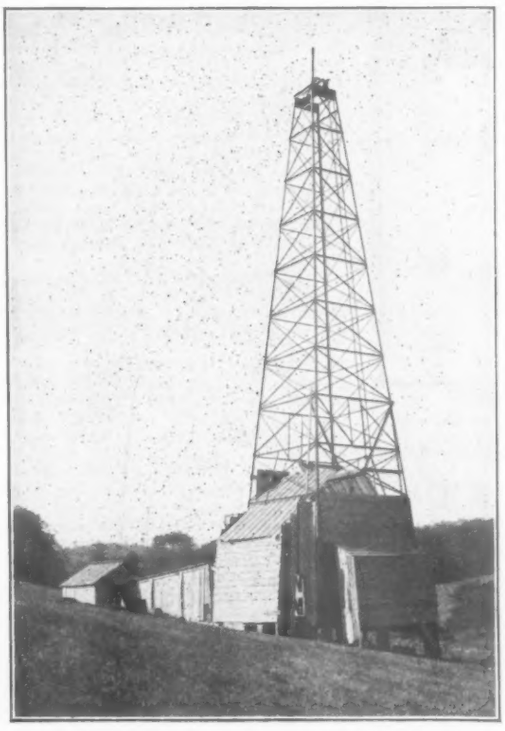
PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Wahoma O. & G. Co.'s Buffalo 1, sec nw, dr 1565 ft.

PAYNE COUNTY—T 18n, R 3e, Sec. 32, Garber, Pulse & Gloyd's Widows 1, nec se nw, 1200 ft td, temp. aband.

LINCOLN COUNTY—T 13n, R 4e, Sec. 16, Bu-Vi-Bar Pet.'s School Land 1, c ne se, td 4878 ft, ur 5-inch csg, top Miss. lime 4871 ft.

OKFUSKEE COUNTY—T 12n, R 10e, Sec. 31, Barnsdall's Tiger 1, swc ne, ur 5-inch 3145 ft. T 11n, R 10e, Sec. 4, Moose & Daniels' Stidham 1, swc nw, sd 622 ft.

MUSKOGEE COUNTY—T 13n, R 17e, Sec.



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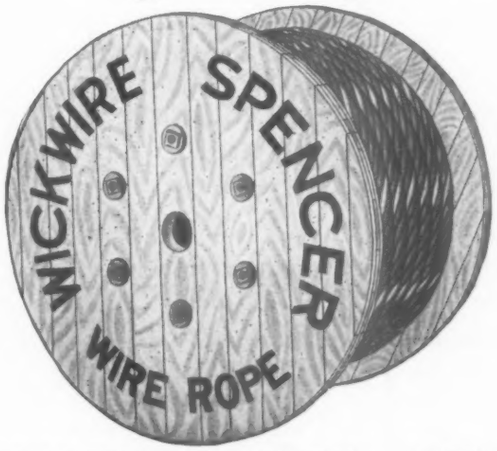

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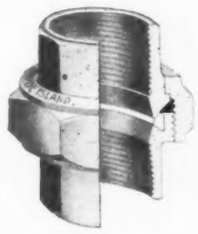

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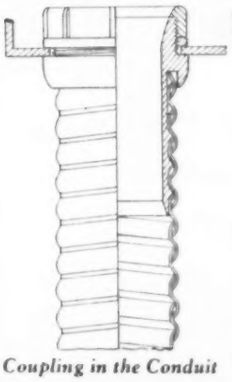

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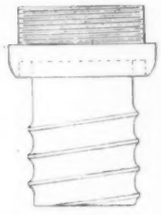

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SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

34, Elk Drilling Co.'s McKee 1, csl se se se, sd 160 ft. T 13n, R 18e, Sec. 33, L. T. Haynie's Linder 1, c se, dr 2170 ft.

PITTSBURGH COUNTY — T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc nw se, 3M gas at 1325-90 ft, 2M gas at 1890-95 ft, Bradenheaded Cromwell sand 3M gas 4472-4525 ft, 3M gas 4613-35 ft, fsh tools 5534 ft.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Sanders 1, nw ne sw, dr 2400 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O. & G. Co.'s Murray 1, swc, sd 1800 ft.

POTTAWATOMIE COUNTY—T 10n, R 3e, Sec. 12, Sikes, Kilgore & Shaffer's Ives 1, c se se, fsh 5525 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 3, Superior's Davis 1, swc se, dr 4302 ft, hfw. T 10n, R 7e, Sec. 18, Shaffer et al's Jones 1, swc ne, td 4710 ft hfw, pb to Cromwell sand at 3715 ft.

HUGHES COUNTY—T 9n, R 10e, Sec. 26, Fuhrman Pet. Co.'s Buck 1, ne nw se, td 2584 ft, 12M gas, ts 3128, td 3170 ft, hfw.

POTTAWATOMIE COUNTY— T 8n, R 2e, Sec. 24, Superior's Jones 1, sw nw ne, fsh 4660 ft.

HUGHES COUNTY—T 8n, R 10e, Sec. 1, Bauer et al's Penn 1, nwc sw ne, td 2350 ft, 10-inch csg collapsed, sd.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner Oil Co.'s Vandeveer 1, ne nw sw, 3120 ft sd.

POTTAWATOMIE COUNTY—T 7n, R 2e, Sec. 17, T. B. Slick's Spangler 1, nw se nw nw, ts 4890 ft, 200 ft water, caving.

SEMINOLE COUNTY—T 7n, R 6e, Sec. 7, Simon and Beam's Palmer 1, ne nw ne, rig.

POTTAWATOMIE COUNTY—T 6n, R 5e, Sec. 16, T. B. Slick's School Land 1, sec, dr 4745 ft, hfw. Sec. 20, Roxana's Deister 1, nwc se ne, dr 4030 ft.

SEMINOLE COUNTY—T 6n, R 6e, Sec. 1, T. B. Slick's Moore 1, sw ne sw, sand 2780, td 2875 ft, hfw, pb to 2760-70 ft, pump 200 bbls water and 7 bbls oil. Sec. 10, Gypsy Oil Co. et al's Davis 1, se ne se, d and a at 4150 ft, hfw. T 6n, R 7e, Sec. 4, Shaffer O. & R. Co.'s Carolina 1, se sw ne, dr 2300 ft.

HUGHES COUNTY—T 6n, R 8e, Sec. 32, T. B. Slick's Epperly 1, nw ne nw, dr 2741 ft. T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, set 10-in 1140 ft, sd.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, Garland Oil Co.'s Strickland 1, sw nw sw, td 2927 ft, set 5-in cas.

PONTOTOC COUNTY—T 3n, R 8e, Sec. 10, Douglas' Johnson 1, c nw nw, ur 6-in cas 2500 ft.

COAL COUNTY—T 2n, R 8e, Sec. 5, Wichtex Oil Co.'s Folsom 1, c nw nw, lcn.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc, ur 12-in cas 1070 ft.

COAL COUNTY—T 1n, R 8e, Sec. 35, W. E. McGarw et al's Patten 1, sw se ne, sd 3510 ft.T 1n, R 9e Sec. 24, Galbreath et al's Jones 1, swc se, sp and sd.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's 1, c sw, sp.

CADDO COUNTY—T 12n, R 11w, Sec. 15, Abernathy & Ashton's 1, c nw, cemt 8-in 3956 ft, td 4062 ft.

ROGER MILLS COUNTY—T 11n, R 26w, Rec. 4, L. C. Hivick's Davis 1, c nw ne, sd 100 ft.

BECKHAM COUNTY—T 9n, 22,w, Sec. 32 O. & H. Pet. Co.'s Barnes 1, (owd), fsh 3430 ft.

KIOWA COUNTY—T 7n, R 15w, Sec. 35, David Malernee's Van Kirkland 1, sd 858 ft. T 6n, 15w, Sec. 6, Johnson's McDowell 1, c sw ne, sd 1750 ft.

CADDO COUNTY—T 6 n, R 12w, Sec. 29, W. J. Hartley's Gilbreath 1, sec nw se, (cwd), sd 3395 ft.

KIOWA COUNTY—T 5n, R 14w, Sec. 17, Blue Mt. Oil Co.'s Jones 1, sec nw nw, sd 625 ft.

GRADY COUNTY—T 3n, R 7w, Sec. 8, David Malernee's Brown 1, se nw sw, dr 3098 ft.

STEPHENS COUNTY—T 2n, R 5w, Sec. 20, Smythe & Martin's Vestal 1, c ne se, dr 1500 ft.

COMANCHE COUNTY—T 1n, R 12w, Sec. 14, P. Hrbacek and A. E. Korthaus' Wilson 1, c ne sw, (owd) sd 3728 ft, very small show oil in lime at 3315 ft.

JACKSON COUNTY—T 1s, R 20w, Sec. 33, Stanley-McGregor's 1, sw nw sw, sd 1800 ft.

TILLMAN COUNTY—T 1s, R 15w, Sec. 9, Bray et al's Barker 1, c se nw, sd 850 ft.

STEPHENS COUNTY—T 1s, R 6w, Sec.

16, Inslig's No. 1 Russell No. 1 Perry, nec sw sw, sand 1148-55 ft, small show gas, td 1905 ft, D. & A.

TILLMAN COUNTY—T 2s, R 17w, Sec. 23, A. J. Bundy's Hayter 1, cnl s½ se, show gas 590 ft, rd.

KIOWA COUNTY—T 2s, R 16w, Sec. 6, Landfair et al's 1, sec sw se, sd 2464 ft.

COTTON COUNTY—T 4s, R 12w, Sec. 16, Guiler & Pyson's Thomas 1, sec sw, sp and sd.

JEFFERSON COUNTY—T 5s, R 8w, Sec. 28, Amerada's Emerson 1, nw se sw, dr 3375 ft.

JOHNSON COUNTY—T 1s, R 7e, Sec. 29, Smity-Kinsley's Lane 1, sec nw, dr 675 ft. T 4s, R 4e, Sec. 18, Wirt Franklin Pet. Corp.'s Wilkes 1, swc se, dr 3445 ft.

SOUTHERN CALIFORNIA

BELLEFLOWER — World Pet. Corp.'s Blythe 1, will resume dr from 2915 ft.

CALABASAS—Easton & Smith's Morrison 1, dr brown shale and streaks of sand, showing slight cut, td 2781 ft.

CHATSWORTH—Russell Pet. Co.'s Joughin 2, dr 283 ft, cable tools.

COSTA MESA—Mesa Pet. Corp.'s 1, cmt 11-inch cas 2500 ft, td 3250 ft.

DAVIDSON CITY—Calif. Well Drilling Co.'s Del Amo 1, bailed to 500 ft, shows oil and gas, td 7662 ft.

DOMINGUEZ — Dominguez Extension Oil Co.'s R. B. 1, sd 5510 ft.

DOWNEY—Associated Oil Co.'s Taylor 1, rigging up.

FULLERTON—Shell Co.'s Stern 1-1, 5773 coring hard sand.

INGLEWOOD—Ring Pet. Corp.'s Simons 1, fsh cmt 3975 ft, td 4350 ft.

LYNWOOD—Security Pet. Corp.'s Community 1, 5335, sd.

MONTEREY PARK — Monterey Park Pet. Co.'s Browning 1, waiting on cas, td 4530 ft.

PUENTE HILLS—Anchor Pet. Co.'s Hudson 1, dr 3848, brown shale.

RIVERA—Empire Drilling Co.'s Well 1, 14-2-12, 15½-inch cas cmt 400.

SAN FERNANDO—Shell Co.'s Mission 2, dr hand sand 3554 ft.

SAN JUAN CAPISTRANO—O. K. Carr's Foster 2, sd 4185 ft.

WATSON — White-Behr Consolidated Oil Co.'s Watson 1, bailing sand 5300 ft.

MISCELLANEOUS

RIVERSIDE COUNTY—Hall Pet. Co.'s 1, 23-7-3, dr sand. Hemet Pet. Co.'s 1, sd 2880 ft. Spindletop Oil Syn.'s 1, reaming 3465 ft. Trabuco Oil Co.'s 1, sd 3555 ft.

SAN BERNARDINO COUNTY — Hesperia Oil & Gas Co.'s 1-A, plugged to 2200 ft. td 3310 ft. Western Pacific Oil Co.'s 3, co to run 6¼-inch cas.

SAN DIEGO COUNTY—Davenport O. & G. Co.'s 1, dr 616 hard sand. Torrey Pines Oil Co.'s MacGregor 1, dr hand sand 1583 ft. S. S. Turner's Baler 1, running 6¼-inch cas to shutoff artesian water. C. R. Schuster's Ganymede 1, dr hard blue shale 3521 ft.

NORTHERN CALIFORNIA

Completions

OXNARD—
Shell, Cohn 1, 22-2-22 ..... * 1986

KERN COUNTY

ARVIN—Texas Co.'s Pauley 1, 22-31-29, dr brown shale 4725 ft.

BAKERSFIELD—Pacific Eastern Prod. Co.'s KCL 3, 6-30-28, prod 4 million cu ft gas, td 4414 ft; KCL 4, 6-30-28, new lc. Hughes 1, 5-30-28, new lcn. Jackson & Chamberlain's 1, 6-30-28, sd 525 ft.

BELRIDGE—Zurich Oil Co.'s 1, 18-23-22, sd 2790 ft.

BUTTONWILLOW — Doheny-Stone Drill. Corp.'s Salisbury 1, 7-29-24, sd 4280 ft. Milham Explo. Co.'s Page 1, 6-28-23, dr 2450 ft. Southern Calif. Gas Co.'s 1, 4-28-23, sd 4270 ft.

COMANCHE POINT—W. W. Stabler's Tejon 1, 23-32-29, dr 2710 ft, oil and gas showings.

DELANO—Jasmine Oil Co.'s 1, 33-25-27, sd 2811 ft. S. A. Delzel's Vedder 1, 4-26-27, dr 600 ft.

EDISON—General Petroleum's Kerwin 1, 5-30-29, plugged to 3944 ft., pumping oil, sand and water; No. 5, 32-29-29, dr sand and shale 1733 ft. Midway-Northern Oil Co.'s Brown 1,

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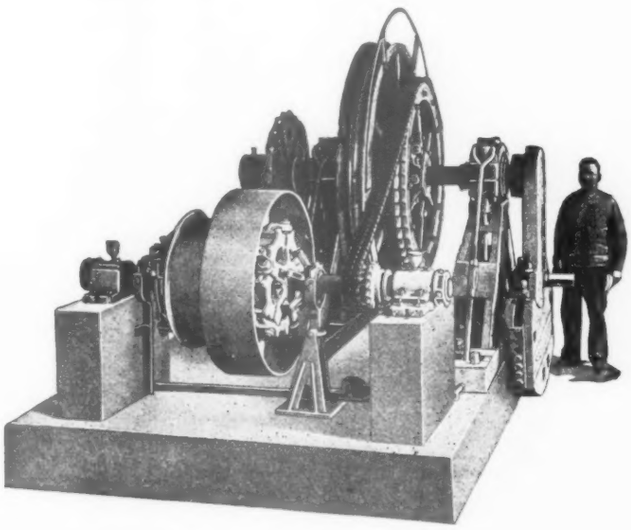

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Request Bulletin 85-C

29-29-30, dr out cmt below 6¼-inch cas, td 3575 ft.

FAMOSA—Famosa Oil Co.'s 1, 34-27-26, dr sand and shale 3033 ft.

GOULD HILLS—Bomke & Ball's 1, 19-29-20, dr hand shale 1866 ft. Cymric Oil Co.'s Porter 3, 36-28-20, dr sand and silt 1525 ft. Exeter Oil Co.'s Parry 1, 1-29-20, cored oil sand 1202-14, cmt 8 5-8-in cas 1201 for prod. test. Ozena Oil Co.'s 1, 27-29-21, swabbed water and some oil, td 2920 ft.

SHAFTER—North American Cons. Oil Co.'s McVey 1, 8-28-25, sd 2545 ft.

SEMITROPIC—Richfield Oil Co.'s Lincoln 1, 21-26-22, dr sand 3271 ft.

TEHACAPI—Crusaders Oil Co.'s 1, 21-10-10, making 6¼-in cas test, td 2375 ft.

TEMBLOR—Jackson and Chamberlain's 1, 36-20-20, sd 760 ft.

WASCO—Main Oil Co.'s 2, 28-27-24, sd 5270 ft.

VENTURA COUNTY

BARDSDALE—Triple A. Investment Co.'s Elkins 1, 28-4-19, dr 2669 ft, carrying 8 5⅛-in cas.

CAMARILLO—American Oil Co.'s 1, 32-2-20, dr basalt 440 ft.

FILLMORE — Henry Demond's 1, 19-4-19, reaming 413 ft.

OJAI—Continental's Fox 1M, 21-4-22, fsh for bit 2040 ft; Thompson 1, 22-4-22, fsh for lug 1600 ft. Geos & Bradford's 2, redrilled to 2145 ft. California-Ventura Oil Co.'s 4A, 33-4-23, sd 1255 ft. J. W. Hackworth's McDonald 1, 11-4-23, sd 2215 ft.

OXNARD — Shell's Cohn 2-1, 22-2-22, abn 1986 ft; Grub 1, 22-2-22, washing over drill pipe 4250 ft.

PIRU—Petroleum Securities Diablo 1, 26-5-10, fsh 5550 ft. Rio Grande Oil Co.'s B. B. & N. 1, on prod, test, td 2150 ft. Wasibi Oil Co.'s Bishop 2, 34-3-19, dr 1190 ft, gas showing.

RINCON—Scott Petroleum Properties' Cota 1, 13-4-25, showed some oil on test sd 4450 ft.

SANTA PAULA—W. W. Bryant's Anlauf 1, 21-4-21, pumped about 10 bbls, idle. San Pedro-Pt. Fermin Syn.'s Kellerman 1, 13-4-21, dr hard sand 666 ft.

SIMI—Emma F. Exline's Seaton 1, 32-5-21, redrilling at 1662 ft. Shell's Berylwood 1, 32-3-20, pumping water from 7240 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, dr sand and shale 4424 ft.

SANTA BARBARA COUNTY

SANTA BARBARA—Channell O. & Dev. Co.'s 1, 29-4-27, fsh and co 6050 ft. Tepusquet Oil Co.'s 1, 3-9-32, dr Serpentine 2664 ft.

SUMMERLAND — Summerland Oil Co.'s Becker 1, dr hard sand 3071 ft.

MISCELLANEOUS

COLOUSA COUNTY—Continental's 1-A, 31-18-4, fsh 4277 ft.

FRESNO COUNTY — Fresno-Madera Oil Co.'s 1, 18-12-21, sd 4150 ft.

HUMBOLDT COUNTY—Eureka Oil Co.'s 1, 21-4-1, fsh 3070 ft.

KINGS COUNTY—Milham Explo. Co.'s Elliott 1, 2-22-17, redr 6718 ft. California Oil Co.'s 1, 12-23-19, moving in rig material. Superior Oil Co.'s 1, 18-21-17.

SAN LUIS OBISPO COUNTY—Holland & Kennebrew's Vishu 1, 22-32-22, sd 1600 ft. Indian Dome Oil Co.'s 1, 25-31-12, dr hard brown shale 2751 ft. North Star Oil Co.'s 1, 5-32-13, co 1500 ft, td 3250 ft. Panorama Oil Co.'s 1, 7-31-21, dr 2860 ft. Richfield Oil Co.'s C. P. 1, 15-29-27, sd 3785 ft. San Luis Synd.'s 2, 31-31-13, dr shale 231 ft. Union's Rust 1, 34-32-15, redr 1739 ft, td 3075 ft; Chandler 1, 12-32-15, dr hand sand 600 ft. Waklin Pet. Co.'s 1, 27-27-11, 4½-in cas cmt 2410 ft, td 2610 ft.

MONTEREY COUNTY — Marland's Naciemento 1, 32-24-11, dr hand sand and shale 4790 ft.

SAN MATEO COUNTY—Shell's Butts 1, 21-6-5, pulled rods and tubing, td 3090 ft. Cowell 2, 8-6s-5w, bailed to 2650, td 2667 ft.

SONOMA COUNTY—Shell's Mossi 1, 8-5-7, flowing dry gas from 2140 ft.

TULARE COUNTY—Ducor Drilling Co.'s 1, 29-23-27, co 4121 ft, td 4195 ft.

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Patents Obtained, Trade Marks, Patent Causes
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Formerly Assistant Examiner
United States Patent Office
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Maurice Hirsch & Ben J. Brown
ATTORNEYS AT LAW
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JOHN F. WEINZIERL
CONSULTING GEOLOGIST
ADVISOR ON GEOPHYSICAL INSTRUMENTS
619 Petroleum Bldg., Houston, Texas

Texas Quarterly Production Report
Second Quarter, 1928

Leading Companies in Texas, Second Quarter, 1928

	Second Quarter 1928	First Quarter 1928	Fourth Quarter 1927	Third Quarter 1927	Second Quarter 1927
Gulf Production Company	6,319,764	6,585,359	5,849,323	5,593,842	6,195,776
Humble Oil & Refining Company	4,549,109	3,895,649	2,963,199	2,815,955	3,017,439
The Texas Company	3,293,960	2,957,020	2,814,945	2,804,057	3,048,653
Roxana Petroleum Corporation	3,178,997	2,818,691	1,122,990	902,342	.....
Yount-Lee Oil Company	3,148,550	2,754,357	3,363,020	3,776,083	3,411,161
Magnolia Petroleum Company	2,847,060	3,091,216	3,125,152	2,843,208	2,926,145
Atlantic Oil Producing Company	2,811,355	1,866,747	1,956,282	1,581,321	.....
Southern Crude Oil Purchasing Company	2,355,767	1,371,203	847,050	.....	.....
Phillips Petroleum Company	1,689,924	1,884,085	2,192,109	2,660,000	2,962,760
Cranfill and Reynolds	1,505,562	.....	.....	.....	.....
Republic Production Company	1,430,593	1,150,583	.....	.....	.....
Landreth Production Corporation	1,389,798	1,721,002	1,550,958	.....	.....
Prairie Oil and Gas Company	1,363,067	1,677,068	1,779,957	1,273,734	1,510,666
Big Lake Oil Company	1,253,037	1,428,501	1,517,868	1,656,053	1,702,783
The California Company	1,177,106	.....	.....	.....	.....
Marland Production Company	1,173,016	.....	.....	.....	.....

Total, second quarter, 1928	61,132,904
Total, first quarter, 1928	56,746,220
Total, fourth quarter, 1927	56,842,468
Total, third quarter, 1927	51,695,154
Total, second quarter, 1927	50,864,154

Gross receipts Tax Report Filed on Crude Oil Production in Texas for Quarter Ending June 30, 1928:

Name and Address—	Barrels
Alamosa Oil Company, Amarillo	50,961
Amicable Life Ins. Co., Waco	454
Acorn Oil Co., Beaumont	8,740
Anna Belle Oil Co., El Dorado, Ark.	11,466
Alamo Oil Co., Brownwood	509
Earl Abraham, Bridgetown	1,088
Ama-Gray Oil Co., Amarillo	5,154
Allday Oil Corp., Wichita Falls	12,494
Arkansas Fuel Oil Co., Shreveport, La.	6,897
Geo. B. Ancell, Sr., Electra	2,060
A. & P. Prod. Co., Houston	33,559
Ada Belle Oil Co., Batson	22,376
The Antelope Creek O. & G. Co., Amarillo	20,431
Apple-Brandeberry Oil Co., Wichita Falls	15,354
American Ref. Properties, Wichita Falls	64,079
Atkinson & Sandefer Oil Corp., Breckenridge	10,853
All-American O. & G. Co., Oklahoma City, Okla.	48
The Ashe Syndicate, Ft. Worth	691
Atlantic Keystone Pet. Co., Inc., New York, N. Y.	437
The Alaska Pet. Co., Amarillo	2,019
American Well & Prospecting Co., Corsicana	29,506
The Ascot Co., Wichita Falls	7,056
Atlantic Oil Prod. Co., Dallas	2,811,355
Anchor Oil Co., Dallas	1,200
R. W. Abbott, Beaumont	3,401
J. S. Abercrombie Co., Houston	57,079
M. Aronson, Brenham	5,030
J. W. Ailes, Wichita Falls	613
Albany Oil Co. & Hope Oil & Gas Co., Breckenridge	2,380
R. W. Adams, Trustee No. 2, Amarillo	6,078
Arco Oil & Gas Co., Baltimore, Md.	8,815
Andrews Pet. Corp., New York, N. Y.	5,422
Atlas Oil Corp., Humble	3,341
Amerada Pet. Corp., Tulsa, Okla.	171,325
Walter B. Adams, Wichita Falls	493
Alonso Jr. Oil Producers, Laredo	800
Amarillo Oil Co., Amarillo	1,623
Artex Oil Co., Wichita Falls	2,456
Arco Oil Co., Wichita Falls	21,312
Bridwell & Heydrick Oil Co., Wichita Falls	23,749
L. T. Burns, Wichita Falls	73,931
Bass & Dillard, Wichita Falls	2,745
The Braden Co., Eastland	2,606
Brannon & Murray (3-31-28), Cisco	3,104
J. A. & Mollie B. Baker, Breckenridge	7,660
Blue Bonnet Pet. Corp., San Antonio	1,142
Dr. E. W. Brown, Estate, Orange	2,686
Fannie Bailey, Wichita Falls	889
J. B. Barnes, Electra	3,061
Breeding & Hutson, Rising Star	3,905
Mrs. Carrie L. Brown et al, Orange	23,330
Wm. Bartlett Co., Electra	535
C. W. Boller, Wichita Falls	8,014
Borealis Oil Co., Oklahoma City, Okla.	3,753
Bluebonnet Oil Co., Wichita Falls	880
Burton McKee Oil Corp., Strawn	408
Britton Gordon & Wickens, Strawn	1,100
Brinkley Prod. & Ref. Co., Pittsburgh, Pa.	397
Breckenridge Gasoline Co., Toledo, O.	82
Geo. Boggs Strip, Fort Worth	2,954
A. H. Bevering, et al, Henrietta	2,086
American Ref. Properties— M. J. Bashara Estate, Wichita Falls	3,152
Burke-Venus Oil Co., Dallas	9
Biggs, R. F., Corsicana	96
Biel, Wm. A., Von Ormý	32
Bridwell & Mayfield, Wichita Falls	9,673
Bullington, Lee, Pendleton & Bullington Wichita Falls	12,355
Brownlee-Pope Oil Co., Austin	2,829
W. W. Bynum, Dec., Rockdale	1,298
Baird Oil Co., Putnam	283
Bowman Oil Co., Rockdale	1,310
Babcock, Scheurer & Schlaffke, Electra	123
G. J. Bohner, Burkburnett	8,560
Black Cat Oil Co., Electra	1,137
Big State Oil Corp., Dallas	624
Black Diamond Oil Co., Amarillo	183
Black-Pearson & Hudson, Corsicana	4,771
Bryant, M. D. San Angelo	2,265
Boggs Oil & Gas Co., McKinney	1,063
Barbara Oil Co., Oklahoma City, Ok.	4,984
Bexata Oil Co., San Antonio	1,697
Buttram Pet. Corp., Okla. City, Okla.	56,707
Black, W. A., Albany	1,097
The Badger Oil Co., Amarillo	8,684
Beaver Oil Corp., Okla. City, Okla.	10,435
Bynum & Palmer, Rockdale	228
Baldwin, F. C., et al, Fort Worth	1,681
Bailey, Carl B., Wichita Falls	6,490
Brazos River Gas Co., Wichita Falls	220
Barnsdall Oil Co., Tulsa, Okla.	43,156
Bruce, H. I., Wichita Falls	2,001
Big Indian Oil & Dev. Co., The, Gainesville	776
Bonner, J. H. S., et al, Wichita Falls	6,094
Blair & Kell, Dallas	229
Bonchil Company, The, Wichita Falls	7,226
Burkburnett Production Oil Trust, Baltimore, Md.	849
Barkley & Conway, Ranger	4,375
Barkley & Crotty, Ranger	5,835
Barkley Crotty Six and Little, Ranger	1,327
Brady Brothers, Minerva	1,978
Bleakley & Kinnison, Wichita Falls	855
Bartlett Prod. Co., Rockdale	1,983
Big Lake Oil Co., Pittsburgh, Pa.	1,253,037
British American Oil Prod. Co., The, Wichita Falls	11,374
Brannon & Murray, Cisco	3,286
Prownwood Prod. & Ref. Co., Brownwood	1,666
Bashara & Bashara, Waco	53
Bradstreet Co., The L. G., Fort worth	28,024
Bashara, J. F., Houston	9,195
Booth Oil Co., Olney	165
Birk, C. E. & Kelley, C. L., Iowa Park	152
Big 4 Consolidated Oil Co., El Paso	52
Burke-Greis & Gwinnup, Tulsa, Okla.	1,543
Burke-Greis Oil Co., Tulsa, Okla.	1,615
Burke-Greis & Gwinnup, et al, Tulsa, Okla.	816
Bashara & Sons, M. J., Wichita Falls	42,220
Bashara & Co., M. J., Wichita Falls	2,006
Brooks & Hanlon, Inc., Tulsa, Okla.	877
Beams, Drew, Okmulgee	1,324
Bridwell & Heydrick, Trustee, Wichita Falls	3,225
Bridwell Oil Company, Wichita Falls	38,598
Brown, O. N., & Midsun Oil Corp., Coleman	1,441
Cunningham, Bratcher & Pennell (J. L. Boone Lease), Loving	22,546
Carlin & Tobin, Ranger	292
Carlin, W. W., Ranger	312
Cole Pet. Co. (3-31-28), Laredo	7,399
Cole Pet. Co. (12-31-27), Laredo	2,624
Church-Weekley-Fields, et al (April, '28), Fort Worth	27,641
Cullen, West & Pillot, Houston	132,691
Craig & Lowrie, Pittsburgh, Pa.	2,090

Name and Address—	Barrels
Cashdollar & Snyder, Brownwood	259
Canary, S. C., et al, Tulsa, Okla. ...	202
Curry, E. M., Rising Star	1,487
Cunningham & Bratcher (On Hawkins Lease) Loving	26,668
Clarkson, Wm., Jr., (For Oil City Iron Works), Corsicana	1,283
Crabb & McNeel, San Angelo	1,094
Cockrell-McIlroy Oil Co., Inc., Amarillo	39,044
Culbertson Company, Wichita Falls ..	10,942
Culbertson Bros. Company, Fort Worth	1,593
Capitol Oil Company, Orange	1,883
Cornhusker Oil Co., Lincoln, Neb. ..	2,550
The Canyon Oil & Gas Co., Inc., Cross Plains	2,251
Cisco Oil Company, Tulsa, Okla.	37,574
Cranfill Bros. Oil Co., Wichita Falls..	450
Coffey & Schlaffke, Electra	86
Caruthers Company, San Antonio	2,059
Coble-Whittenburg Oil Co., Amarillo.	5,898
Cullen, H. R., et al, Houston	48,562
Caldwell, John W., Wichita Falls	1,626
Cushing Refining & Gasoline Co., Cushing, Okla.	21,572
Clay, J. D., Houston	1,602
Clara Oil Co., Wichita Falls	357
Curtis, J. A., Wichita Falls	1,998
Caltex Oil Co., Spokane, Wash.	436
Chenault, W. L., Amarillo	666
Campbell & Wills, Burkburnett	1,674
Camel Oil Company, The, Pampa	2,638
Camel Oil Co. (Per. Nov. '27 to 3-31-28) Pampa	8,220
Camp Oil & Gas Co., The, Wichita Falls	1,219
Columbia Pet. Co., Laredo	12,348
Church & Fields, Fort Worth	15,349
Chapman, O. H., Waxahachie	236
Cole, W. C., Wichita Falls	2,620
Collier, J. W. and E. Mabel, Tipton, Okla.	537
Collins, J. L., & Co., Corsicana	6,210
Coffey & Graham, Wichita Falls	337
Christie Bros., Wichita Falls	6,949
Cook, R. H., Electra	265
Clear Lake Oil Co., Rockdale	1,836
Chapman, P. A., Jr., Eastland	629
Charter Oil Co., Brownwood	37,439
Conway Bros. & Gholson, Ranger ...	36
Cranfill Bros. Oil Co., Dallas	2,778
Crottom, J. H. & Co., Wichita Falls..	1,435
Central Texas Ref. Co., Brownwood..	13,807
Coyle-Concord Oil Co., San Antonio ..	13,468
Clark, R. R., Wichita Falls	15,300
Cowling & Newell Oil Co., Burkburnett	281
Cowling & Hoppes, Burkburnett.....	148
Central Oil Co., Cameron	1,616
California Company, The Colorado ...	1,177,106
Chenault, Palmer & Burch, Wichita Falls	15,120
Clark, C. W., Wichita Falls	66
Cline, W. D., Wichita Falls	589
Crown Oil & Ref. Co., Houston.....	11,984
Crown Central Pet. Corp., Houston..	61,127
Crenshaw, Albert, Wichita Falls	4,083
Cunningham Prod. Co., El Paso	10,258
Cohen, Aaron, Baltimore, Md.	8,513
Coffield & Hale, Rockdale	3,287
Castlebury, S. A., Vernon	630
Continental Supply Co., The, St. Louis, Mo.	476
Coppock & Coleman, Iowa Park	30,778
Carter, Roy I., Wichita Falls.....	18,143
Cox, Edwin B., Ardmore, Okla.	3,029
Chestnut & Smith Corp., Tulsa, Okla.	1,821
Cosden & Co., Inc., Fort Worth	82,080
Cosden, J. S., Inc. Fort Worth.....	8,077
Chapman, P. A., Estate, Waxahachie	15,545
Clem Oil Co., Houston	474
Chapman, E. L., Trustee, Fort Worth	1,127
Cluney, et al, Breckenridge	859
Carey, E. S., et al, Wichita Falls ..	330
Carey, E. S., et al, Wichita Falls ..	647
Cosa Oil Co., Cisco	380
Champlin Ref. Co. & J. T. Parks, Enid, Okla.	48,179
Conner Son & Cloughley, Gotebo, Okla.	21,680
Crenshaw, Albert, Wichita Falls	6,507
Consolidated Oil Co. of Texas, Wichita Falls	23,859
Cranfill & Reynolds, Cisco	1,505,562
Continental Oil Co., Wichita Falls ...	594,671
Cole Pet. Co., Laredo	36,236
Crosscut Corporation, Fort Worth...	1,522
Duncan, J. W., Wichita Falls	4,638
Denny, Andrews & Wittmer, Putnam	1,606
Dixon, Reeder & Cook, Wichita Falls	980
Dominion Oil Co., Tulsa, Okla.	1,178
Deep Sand Syndicate, The, Corsicana	430
Dabney-Elliott & Chandler, Moran...	15,229
Durrston, H. H., Fort Worth	975
Dallas Pet. Co., Dallas	582
Dull-Earles Texas Co., Albany	409
Davis, Caroline A., Somerset.....	400
Davis, W. F., Wichita Falls	1,117
Developers Oil & Gas Co. Wichita Falls	1,315
Duke-Langford Oil Co., Wichita Falls	1,272
Dixon Creek Oil Co., Inc., Amarillo..	177,176
Duffield & Howard Oil Co., Tulsa, Okla.	933
Dulaney, J. H. (Per. Jan. to 6-8-28), Wichita Falls	416
Dale Oil & Ref. Co., Wichita Falls ...	2,549
Dale Oil Corp., Wichita Falls	35,506
Dunbar, S. M., No. 1 Houston.....	1,022
Duho Oil Co., Houston	1,249
Duncan & Stratton, Cross Plains	422
Dale & Crawford, Electra	760
Derby, Haines & Williams, Wichita, Kansas	13,054
Danciger Oil & Ref. Co. of Texas, Ft. Worth	118,408
Derby Oil Co., Wichita, Kansas	8,533
Dalton, Jack, Oil Co., Fort Worth...	2,032
Devonian Oil Co., Tulsa, Okla.	42,470
Dennis, J. S., Morgan	1,884
Dixie Oil Co., Inc., Shreveport, La. ..	141,824
Dixie Drilling Co., Fort Worth	315
Double Five Oil Co., The, Amarillo..	2,361
Derby, A. L., & Haines, E. A., Wichita, Kansas	13,309
Dorian, R. P., Wichita Falls	7,905
Dibble Oil Co., San Antonio	961
Deutser, B., Trustee, Beaumont	1,037
Dunaway, J. E., et al, Wichita Falls..	2,942
Dismuke, H. A., Receiver, Houston Prod. Co., Houston	3,032
Dale-Knotts Oil Co., Wichita Falls ..	259
Douglas Prod. Co., Electra	2,194
Duquesne Oil Corp., Eastland	407
Douglas Oil Co., Tulsa, Okla.	1,647
Dean Oil Co., Burkburnett	498
Delmar Oil Co., Bartlesville, Okla. ..	1,334
Davis, L. R., Tulsa, Okla.	121
Deering, John A., Houston	8,783
Dudley, G. S., Iowa Park	1,131
Dillon & Glasscock Co., San Antonio	602
Dunnigan & Wylie, Albany	265
Dayton Oil Co., Dayton	646
Dunnigan Bros., Amarillo	2,040
Douglas Bros. Oil Co., Electra	871
Diana Oil Co., Tulsa, Okla.	1,566
Eureka Prod. Co., Tulsa, Okla.	18,338
Electra Callahan Oil Co., Electra	584
Eddy Oil Co., Beaumont	1,694
Ellis & Lancaster, Beaumont	963
East Batson Oil Co., Batson	23,863
Eastern Pet. Corp., Wichita Falls	2,351
Empire Gas & Fuel Co., Bartlesville, Okla.	278,006
Ellis and Anderson, San Antonio	155
Eggers, J. E., Trustee, San Anotnio ..	758
Electra Gulf Oil Co., Electra	4,389
Engel, E. A., Albany	786
Easton, E. S., Wichita Falls	1,773
Electra Prod. Co., Inc., Electra	1,177
Erie Investments, Ltd., of Texas, Toronto, Canada	600
Eastland Oil Co., The, Fort Worth ..	57,815
El Paso, Burkburnett Oil Co., El Paso	63
Erickson, Selma E., Wichita Falls	66
Emrick, U. R., Minerva	336
Ernest Oil Co., Rockdale	666
Ellison Oil Co., Rockdale	73
Fresno Oil Co., Wichita Falls	20,919
Four Oil Co., The, Wichita Falls .	3,140
Farlyn Oil Co., Houston	19,191
Foster, Jno. F., Receiver, Empire-Pierce Fordyce Lease, Fort Worth.	11,490
Farish & Ireland Lease, Houston	6,920
Fitzgerald Syndicatet Lease, Wichita Falls	836
Falls Prod. Co., Wichita Falls	9,461
Fleming and Kimbell, Sherman	4,019
F. H. E. Oil Co., Sherman	50,316
Freddie Palmer Oil Co., Rockdale ...	153
Flynn, W. B., Beaumont	4,776
Ferguson, W. R., Wichita Falls.....	663
Fort Bend Oil Co., Houston	10,402
Forest Oil Corp., Fort Worth	34,215
Fort Ring Oil & Gas Co., Fort Worth	808
Fountain Prod. Co., Saratoga	2,477
Fisher, J. A., Wichita Falls	2,121
Fuqua & Plains Drilling Co., Amarillo	1,434
Franklin, Wirt, Ardmore, Okla.	1,243
Freeman-Hampton Oil Corp. ("A"), Wichita Falls	5,498
Freeman-Hampton Oil Corp., ("B"), Wichita Falls	1,197
Fensland Oil Co. of Texas, Independence, Kansas	6,223
Franchot, D. W., & Co., Tulsa, Okla.	72
Fain-McGaha Oil Corp., Wichita Falls	345,769
Frontier Oil Co., San Antonio	12,749
Gardner Bros. & Collier, Wichita Falls	1,935
Grady, L. O., Wortham	3,514
Goolsbee & Goolsbee, Wichita Falls..	133
Greene Prod. Co., Fort Worth	270
Greene Prod. Co., (3-31-28), Fort Worth	252
Gulf Coast Oil Corporation, Dallas ...	12,335
Gray & Adams, Inc., Gainesville	3,108
Green, George M., Oklahoma City, Ok.	566
Grady, D., Electra	429
Glodis Oil Co., Saratoga	2,812
Gordon Oil Co. of Texas, The, Logan, Ohio	77
Gainesville Oil & Dev. Co., The, Gainesville	1,711
Granite Oil & Gas Co., Ridgway, Colo.	465
Gholson, Jno. M., Ranger	15,710
Glass Bros., Rosebud	871
Graham & Lash, Moran	223
G. & K. Prod. Co., San Antonio	1,528
Glenridge Oil Corp., St. Louis, Mo. ..	3,916
Gilbert Co., The, Beaumont	6,327
Gaither Prod. Co., Rockdale	1,210
Griswald, E. F., et al (Sunshine Hill Lease), Wichita Falls	558
Guthrie, Cole & Ferguson, Wichita Falls	812
Gilliland Oil Co., Tulsa, Okla.	848
Gates Oil Co., Ardmore, Okla.	3,169
Galvez Oil Corporation, Tulsa, Okla...	4,116
Gates-Bacon-Lea, Wichita Falls	10,985
Galtex Prod. Co., Waxahachie	2,723
Ginter Lange Oil Co., Inc., San Antonio	1,796
Ginter Jones Oil Co., San Antonio...	322
Goolsbee & Graham, Wichita Falls ...	75
Graham, H. L., Wichita Falls	1,474
Gladys Belle Oil Co., Tulsa, Okla. ...	5,795
Godley Oil & Gas Co., Dallas	15,590
Gopher Oil Co., The, Amarillo	1,343
Goldelline Oil Corp., Okla. City, Okla.	10,435
Grayce Oil Co., Wichita Falls	46,658
Golden West Oil Co., San Antonio ..	19,839
Grayburg Oil Co., San Antonio	190,241
Gardner, Wilson & McCaldin, Wichita Falls	7,654
Gillam, Logan Oil Co., Fort Worth ..	2,974
Gordon, H. B., Jr., Trustee, Houston	31,558
Gordon, H. B., Jr., & W. B. Sharp, Houston	31,915
Gordon, H. B., Jr., & W. B. Sharp., Houston	9,976
Gibson Oil Corp., Amarillo	73,391
Gilliland, C. W., Wichita Falls	5,509
Golding & Cochran, Wichita Falls ...	34,871
Golding, Dudley S., Wichita Falls ...	3,991
Godfuy, F. L., Enid, Okla.	103
Gholson, Thompson, Barkley & Crotty, Ranger	2,901
Guaranty Oil Co., Electra	175
Gates Oil Co. of Wyoming, Denver, Colo.	8,627
Gray, T. H., Fort Worth	953
Glasscock Leasing Synd., San Antonio	1,732
Glasscock, M. E., San Antonio	557
Garrett, W. T., Eastland	780
Gilman, R. F., Cisco	79
Gilman & McMurray, Cisco	32,381
Grand Duke Prod. Co., Muskogee, Ok.	99
Gulf Prod. Co., Houston	6,319,764
Group No. 1 Oil Corp., Big Lake	392,576
Gwynn, P. F., Wichita Falls	1,794
Gwynn, P. F. (individually and as agent for J. F. Boyd and Tom Corridon), Wichita Falls	1,936
Gwynn-Boyd Drilling Co., Wichita Falls	6,157
Harrison Oil Co., Houston	18,708
Hobbs Oil Co., Tulsa, Okla.	2,746
Hickey, T. J., et al, Corsicana	60
Houston Gulf Gas Co., Houston	10,661
Houseman, D. H. & Co., Dallas	38
Houston Oil Co. of Texas, et al, Houston	12,474
Hitchman & Howard, Inc., San Antonio	2,846
Hammond, J. G., Wichita Falls	249
Holmes and Huey, Amarillo	2,917
Herogan Oil Co., Amarillo	1,129
Hickok Prod. & Dev. Co., The, Toledo, Ohio	2,989

Name and Address—	Barrels
H-Y Oil Co., Inc., Fort Worth	6,796
Hill & Dowell, Batson	15,909
Howard Pet. Corp., Tulsa, Okla.	830
Hooser, John W., E. H. Eddleman and J. C. Mytinger, Receivers for N. B. Chenault, Wichita Falls	1,646
Hoffman & Page, Eastland	780
Helvetia Oil Co., San Antonio	14,333
Horn, John E., and E. S., Trustees for Imperial Royalties Co., Kansas City, Mo.	13,707
Hamilton & Martin, Wichita Falls	3,662
Howard, Duffield & Berlin, Tulsa, Ok.	1,454
Hereford Oil Co., Electra	3,859
Houston Gulf Gas Co., Houston	7,951
Harvey, R. A., Houston	1,762
Hemby, J. M., Electra	823
Hoffman & Page, Eastland	122
Horn, T. W. (3-31-28), Houston	635
Horn, T. W., Houston	1,742
Hedrick-Camp Drilling Co., Wichita Falls	6,768
Hammond, Jake L., Jr., Ardmore, Ok.	12,729
Hagaman Refining Corp., Ranger	497
Humble Oil & Ref. Co., Houston	4,549,109
Homaokla Oil Co., Okla. City, Okla.	4,921
Handrick, August, Moran	218
Holmes & Riley, Amarillo	6,429
Hill & Riley, Amarillo	1,406
Hyer, Fred, Fort Worth	...
Home Oil & Gas Co., Inc., The, Enid, Okla.	2,116
Hyde Prod. Co., Houston	5,243
Hyde, George, Houston	5,797
Hambleton, Geo., San Antonio	516
Hammon, Heyser & Garrett, Special Account, Wichita Falls	9,052
Hammon, Heyser & Garrett, Wichita Falls	1,300
Hammon & Heyser, Wichita Falls	1,621
Hammon, Heyser, Garrett & King, Wichita Falls	2,362
Hammon & Garrett, Wichita Falls	17,411
Hughes, J. K., Oil Co., Mexia	32,430
Humphrey Bros., Inc., Houston	163
Hull Oil Co., Beaumont	10,292
Humphreys Corporation, Houston	48,874
Hoppes, W. T., Burkburnett	161
Hamilton Estates, The H. L., San Antonio	4,858
Hill, W. R., Trustee, Burkburnett	236
Huber, J. M., Co. of Louisiana, Inc., Breckenridge	447
Houston Prod. Co., Houston	10,670
Hinson, G. D. & R. V. Tidwell, Graham	4,420
Hinson & Tidwell, Graham	459
Houghland Prod. Co., Dallas	4,509
Henshaw Oil Corp., San Angelo	45,653
Hope Oil & Gas Co., The, Fort Worth	17,085
Harris & Simons, Tulsa, Okla.	8,048
Holbrook & Woods, Wichita Falls	25,259
H. B. J. Oil & Gas Trust, Baltimore, Md.	2,339
Hardie, J. M. & Co., Sour Lake	644
Hutton Oil Corp., Cisco	5,505
Hooser, John M., E. H. Eddleman, J. C. Mytinger, receivers for W. M. Priddy, Wichita Falls	10,572
Halmack Oil Co., Dallas	2,247
Hines, Harry, Wichita Falls	59
Hughes, Wm. K., Trustee, St. Louis, Mo.	1,046
Howell, M. L., Lohn	425
Hammond, L. P., Wichita Falls	2,942
Hardy Oil Co., Wichita Falls	2,509
Hanlon Gasoline Co., Tulsa, Okla.	1,779
Hankamer, Earl C., & Co., Sour Lake	582
Hankamer, Earl C., & Co. (3-31-28), Sour Lake	562
Hefley, McIntosh & Thomas-Tiny McClellan, Cameron	666
Infield Pet. Co., Austin	926
Ilseng Prod. Co., Fort Worth	666
Irick Oil Co., Waskom	184
Idaho Oil Co., San Antonio	1,229
Independent O. & G. Co., Tulsa, Okla.	944,796
Ilseng, A. G., Fort Worth	...
Interocean Oil Co., Tulsa, Okla.	14,615
Jaffe Estate, Harry, Wichita Falls	46,301
Judson Oil Co., Tulsa, Okla.	9,973
Jackson, T. H., Sipe Springs	99
Jones, J. A., Moran	491
Janellen Oil Co., & S. R. Walker, Tulsa, Okla.	275
Jennings, J. C., et al, Wichita Falls	746
Jones, W. A., Thos. Phillips Lease, Minerva	74

BUY OR RENT USED PIPE

and Save the Difference

We have the following pipe in the Panhandle District that was purchased new and used in one well:

3600′ 6⅝″ 24-lb. seamless casing.
200′ 20″ 90-lb. casing.
500′ 15½″ 70-lb. casing.
1200′ 12½″ 50-lb. casing.
2000′ 10″ 45-lb. casing.
2800′ 8¼″ 32-lb. casing.

Will rent this casing or any other pipe which you may need. Let us finance your operations by carrying your pipe and casing investment for you.

BRANCH STORES
Wichita Falls, Holliday, Vernon, Breckenridge, Texas

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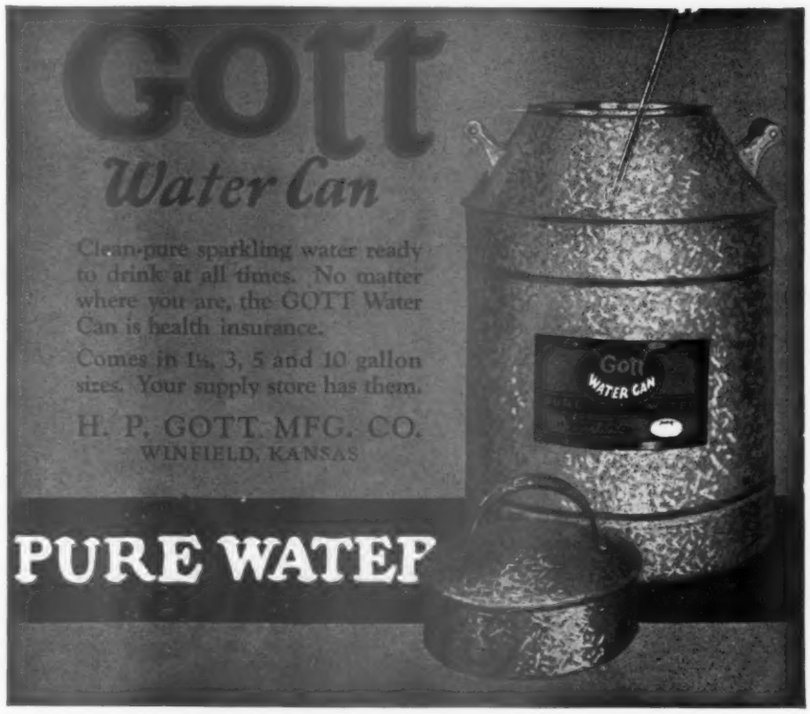
Keystone Pipe & Supply Co.

HOLMES BUILDING
FORT WORTH, TEXAS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Water Can
Clean-pure sparkling water ready to drink at all times. No matter where you are, the GOTT Water Can is health insurance.
Comes in 1½, 3, 5 and 10 gallon sizes. Your supply store has them.
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THE DIAMOND DRILL CARBON CO.
PARK ROW, NEW YORK, N.Y. CABLE ADDRESS, CREDOTAN, N.Y.

Name and Address—	Barrels
Jones, W. A., J. M. Smith Lease, Minerva	474
Jones, W. A., R. K. Smith Lease, Minerva	299
Jonray Oil Co., The, San Antonio	1,554
Julia Oil Co., Sour Lake	3,960
James, Tom, Albany	13,164
Jones, C. A., Strawn	260
Japhet Prod. Co., Houston	12,513
Jacob Oil & Gas Co., Graham	522
Johnson Bros., San Antonio	8,325
Justin Oil Corp., et al, Wichita Falls	12,947
Jackson, J. S., Trustee, Sour Lake	3,021
Junior Oil Co., Cross Plains	1,642
Jones, R. C., & Co., Inc, Cushing, Ok.	133
Jackson Co., The, San Antonio	1,304
Jones, Edwin M., El Dorado, Ark.	18,046
Jones, J. E., Wichita Falls	1,777
Keystone Prod. Co. of Texas, Fort Worth	4,230
Kemrow Co., Wooster, Ohio	16,182
Kent-Middleton Refining Co., Corsicana	16,320
Kirby Pet. Co., Houston	23,779
Keen & Woolf Oil Co., Shreveport, La.	21,786
Kishi, K. (Thrift McGuire Lease) Terry	758
Kleinfelder, B. F., Breckenridge	527
Kerr, T. P., Corsicana	515
Kolp, C. F., Electra	10,321
Kavanaugh Pet. Co., Houston	1,267
King Royalty Co., Wichita Falls	33,810
Kaufman, L., San Antonio	437
King & Daniel, Wichita Falls	5,790
Kingwood Oil Co., Okmulgee, Okla.	613
Knotts, F. F., Wichita Falls	540
Kurz Oil Co., Somerset	532
K. & S. Corporation, Laredo	15,447
Koenig, Max W., San Antonio	20,936
Kemp, Randel, Wilson, Electra	30
Kokomo Pet. Co., Gorman	977
Kershaw, L. R., Muskogee, Okla.	1,494
Kistler, Frank E., & Co., Inc., Denver, Colo.	11,957
Kirk & Evans, W. L. Holmesly, Trustee, Gorman	4,983
King, Anna B., Muskogee	498
Kate Bell Oil Co., The, Dallas	1,152
Keener Oil & Gas Co. of Texas, Tulsa, Okla.	5,178
Kewanee Oil & Gas Co., The, Titusville, Pa.	107,471
Kuhlemeier-Kleiner Oil Co., Cisco	962
Kleiner, Chas. J., Cisco	7,622
Killam, O. W., et al, Laredo	229
Killam, O. W., Laredo	41,829
Klemche, George, Trustee, Von Ormy	2,042
Kone Prod. Co., San Antonio	11,338
Kent, G. C., Corsicana	25,827
Kahle, Gracey & Diver, Bridgeport, Ill.	7,536
Last Chance Gas Co., Pampa	9,580
Lytle Oil Assn., Lytle	269
Laclede Pet. Co., Dallas	43
Loggie & Arendt Oil Co., Albany	3,474
Letwin, Sam, Breckenridge	1,519
Lockhart & Co., Los Angeles, Calif.	20,893
Lytle, C. F., Mexia	14,423
Linedo Oil Co., Lincoln, Neb.	1,895
Lee, Homer, Wichita Falls	1,678
Lomax, Thornton, Jr., Wichita Falls	3,750
Lackey, Receiver, Cause No. 479, Stinnett	39,763
Lake View Oil Co., Sour Lake	13,727
Lackey, W. G., Tulsa, Okla.	3,963
Long, Roy, Oil Co., Navasota	2,923
Little Caddo Synd., Fort Worth	1,449
Lencook Oil Co., Electra	712
Lewis, J. E., et al, Eastland	1,209
Lewis, J. E., & Co., Eastland	2,756
Louisiana Oil Ref. Corp., Shreveport, La.	20,761
Levy, Leonard M., Trustee No. 2, Ranger	1,910
Levy, Leonard M., Trustee No. 1, Ranger	3,636
Laredo Oil Co., Laredo	1,690
Lesh, John I., & Co., Wichita Falls	12,595
Lone Star Gas Co., Dallas	8,956
Lesh, Kilcrease & Co., Nocona	3,495
Lesh & McCall, Nocona	31,845
Leonard Oil Co., Somerset	208
Leonard, G. W., Somerset	578
Langford, W. S., Wichita Falls	1,197
Larkin, W. B., (Owner & Trustee), Wichita Falls	490
Lucey Pet. Co., Dallas	548
Lebow, C. H., Tulsa, Okla.	1,351
Lowry Oil Corp., Wichita Falls	6,680
Lowe, Delaney & Carter, DeLeon	1,423
Liberty Oil & Gas Trust, Baltimore, Md.	864
Lowenstein Oil Co., Rockdale	1,433
Lake Erie Trust Co., The, Trustee, Cleveland, Ohio	897
Lamb & Shaw, Brownwood	1,517
Lamb, Geo. E., & Superior Oil Pro. Co., Brownwood	287
Little, Wm., Breckenridge	275
Lefors Pet. Co., Lefors	49,358
Lake Graham Oil Co., Houston	1,826
Landreth Prod. Corp., Fort Worth	1,389,798
Lubell, Samuel L., et al, Tulsa, Okla.	33,560
Lain Oil Co., San Antonio	1,373
Lawson, Eugene B., Tulsa, Okla.	101,845
McCutcheon, C. E., Trustee, Wichita Falls	9,372
McCrary, E. W., Tulsa, Okla.	4,290
McDonald, W. W., et al, Dallas	5,009
McMurray, J. L., et al, Cisco	2,984
McCormick & Noack, Rockdale	230
McBride, W. C., Inc., St. Louis, Mo.	1,553
McBride, W. C., Inc., St. Louis, Mo.	6,483
McLester Oil Co., Eastland	27,308
McGinley-Sigler Co., Fort Worth	550
McCall, C., Trustee, Nacona	1,163
McNamara Oil Co., Beaumont	2,613
McMan Oil & Gas Co., Tulsa, Okla.	338,529
McEvan, J. P., Trustee, Fort Worth	1,201
McJunkin, Florence, et al, Tulsa, Okla.	823
McDonald, M. C., Putnam	4,847
McCarter, R. C., Cisco	431
McChesney, Nancy, Olney	4,456
Macknold Company, San Antonio	292
McNallen & Letwin, Breckenridge	1,042
McIlroy Oil Co., Amarillo	97,387
McNallen & Griffin, Tulsa, Okla.	3,475
McCarty Oil Co., Wichita Falls	84,854
McCullough, Everett, Wichita Falls	445
McGraw Oil Co., Tulsa, Okla.	2,116
McElreath & Suggett & Anderson & Gaus, Wichita Falls	1,655
Magnolia Petroleum Co., Dallas	2,847,060
Mayland Production Company, Ponca City, Okla.	1,173,016
Miller & Miller, Putnam	308
Medina Oil Company (1-1-28 to 7-12-28), Hondo	2,693
Medina Oil Co., (1926 and 1927) Hondo	25,227
Medio Oil Company, San Antonio	1,047
Martin, Drake & Jones (3-31-28) Houston	1,530
Mills & Garrity, Corsicana	2,100
Matador Oil Corporation, Amarillo	1,378
Moore & Henderson, Tulsa, Okla.	249
Mecom Oil Co., Liberty	9,478
Magee Brothers, Electra	791
Moore, C. O., Oil Corp., St. Louis Mo.	5,971
Moellendick, Field, (Stone-Willis lease) Cisco	772
Matador Oil & Gas Co., The, Quanah	208
Macon Oil Co., Liberty	6,446
Madison Oil & Gas Co., Electra	7,794
Maer & Staniforth, Wichita Falls	2,071
Middleton, J. H., Collinsville, Okla.	12,608
Minor Oil Co., Beaumont	9,705
Mues & McDermott, Fort Worth	390
Manhattan Oil Co. of Kan., The, Kansas City, Mo.	10,940
Midwest Exploration Co., The, Amarillo	159,757
Mason, J. F., Fort Worth	1,294
Meridian Petroleum Corp., Tulsa, Okla	3,543
Marnet Oil & Gas Co., Tulsa, Okla	4,518
Minerva Petroleum Co., Minerva	865
Montgomery-Rea-Montgomery, Sedwick	2,277
Milham Corp. of Texas, San Antonio	23,720
Mid-Continent Petroleum Corp., Tulsa, Okla.	13,777
Merrick & Bristow, Ardmore, Okla.	6,891
Mennis, G. W., Wichita Falls	5,585
Medina Oil & Gas Assn., San Antonio	245
Majestic Oil Co., The, Amarillo	10,861
Moutray Oil Co., Abilene	88,560
Moutray & Son, Abilene	572
Moore, N. A., Eastland	1,409
Morton, A. D., Bartlesville, Okla.	772
Mendelhall Oil Co., Cisco	2,335
Mid-Kansas Oil & Gas Co., Findley, Ohio	878,534
Midland Oil Co., Fort Worth	29,748
Mann & Forbes, Graham	2,010
Mann, F. A., (Grimshaw lease) Graham	1,425
Mook-Texas Oil Co., Fort Worth	5,673
Murko Oil & Royalty Co., Dallas	8,019
Murchison Oil Co., Dallas	116,669
Moody Corp., Houston	234,521
Moore, C. O., Oil Corp., St. Louis	5,855
Moran, W. J. Wichita Falls	3,502
Mitcham, G. P., Cisco	1,116
Moore, F. L., Trustee, Tulsa, Okla.	3,311
Meredith, J. D., Moran	5,129
Margay Oil Corp., Tulsa, Okla.	2,630
Maben Oil Corp., Wichita Falls	614
Merrick & Lamb, Ardmore, Okla.	11,439
Minnehoma Oil & Gas Co., Tulsa, Okla.	12,036
Midwest & Gulf Co. of Texas, Trust Estate, Tulsa, Okla.	1,269
Moss & Keeling, Mexia	2,842
Moss, Keeling et al, Mexia	5,914
Moss, Urschel & Keys, Mexia	15,656
Moss & Urschel, Mexia	14,356
Mayberry, C. R., Co., Laredo	2,613
Marsalis Bros., Humble	1,825
M. & V. Oil Co., Wichita Falls	5,681
Maxwell, J. C., Fort Worth	101,352
McKanna, Jas. E., Agent, Wichita Falls	9,061
Middleton, J. H., Collinsville, Okla.	8,426
Meredith & Gant, Wichita Falls	1,379
Norman Oil Co., Wichita Falls	1,432
Navarro Oil Co., Houston	143,299
Number Nine Oil Corp., Tulsa, Okla.	2,557
Newport & Ohio Pet. Co., Newport, N. Y.	196
National Supply Co. of Texas, The, Fort Worth	161
National Oil Co., San Antonio	854
Newton-Palmer Oil Co., Rockdale	745
Nabob Oil & Gas Co., Amarillo	5,916
National Investment Co., The, et al, Breckenridge	3,132
New Domain Oil & Gas Co., Pittsburgh, Pa.	5,685
Nimrow Oil Co., Dallas	312
Nat. Pet. & Ref. Co., Wichita Falls	729
New Oil Co. and Homer Slicker, Cisco	629
Necessity Oil Corp., Eastland	3,718
Nunn & McAuley Oil Co., Amarillo	17,080
North Fork Oil Co., Amarillo	4,072
Nutt & Gates, Wichita Falls	1,678
Noble Oil & Gas Co., Tulsa, Okla.	3,253
Noack & Lanning-Phillipa & Perry, Rockdale	145
Noack & Lanning, (Shelton lease), Rockdale	481
Noack Oil Co., Rockdale	2,128
Ohio Somerset Oil Co., The, Cleveland, Ohio	1,613
Owenwood Pool No. 3, J. W. Robins, Trustee, Fort Worth	4,415
Owenwood Oil Corp., Fort Worth	1,252
Owen-Sloan Oil Co. (9-30-27), Colorado	672
Owen-Sloan Oil Co. (12-31-27), Colorado	161
Owen-Sloan Oil Co. (3-31-28), Colorado	2,680
Oil Investment Co., Wichita Falls,	3,418
Old Ocean Oil Co., Kansas City, Mo.	3,742
Overby, J. D., Iowa Park	645
Oktaha Co., The, Tulsa, Okla.	906
Omilak Oil Co., Spokane, Wash.	271
Owen-Sloan Oil Co., Colorado	5,523
Osage Development Co., Bartlesville, Okla.	1,406
Oldom, Wm. P., Iowa Park	1,524
Owens Oil Co., Brownwood,	700
Oriental Oil Co., Dallas	925
O'Niel, John, Wichita Falls	13,322
Omohundro, W. B., Wichita Falls	4,474
Offenbacher, E., Tulsa, Okla.	179
Olean Petroleum Co., Bristow, Okla.	28,565
Orange Pet. Corp., Orange	25,762
Olney Oil & Ref. Co., Olney	784
Osborne, R. R., et al, Amarillo	3,502
Oriental Oil Operating Organization, Wichita, Kan.	30,974
Old Colony Oil Co., Dayton	2,112
Palo Duro Oil Co., Amarillo	32,153
Pandem Oil Corp., Wichita Falls	46,090
Pace, Geo. L., Wichita Falls	1,256
Piney Oil & Gas Co., New York, N. Y.	8,257
Powell, J. L., Wichita Falls	482
Pandem Oil Corp., (3-31-28), Wichita Falls	17,037
Portland Drilling Corp., Wichita Falls	1,053
Price-Russell & Co., Ranger	5,015
Piveto, M. E., Sour Lake	3,988
Piper, L. E., Trustee, Vernon	1,586
Pomona Mutual Oil Synd., Pomona, Cal.	2,544

Name and Address—	Barrels
Pinto Oil Co., (3-31-28), Mineral Wells	336
Pinto Oil Co., Mineral Wells	432
Paull Oil Co., Graham	11,921
Progressive Production Co., Kansas City Mo.	2,164
Paraffine Oil Co., The, Houston	15,235
Preston Oil & Gas Co., Brownwood	343
Putnam Oil Co., Tulsa, Okla.	58,087
Parry Oil Co. of Texas, Inc., The, Fort Worth	1,149
Pure Oil Co., The, Chicago, Ill	1,667,531
Petroleum Investment Co., Fort Worth	3,799
Pemeta Oil Co., Fort Worth	4,329
Panhandle Refining Co., Wichita Falls	93,181
W. E. & C. E. Pollard, Pampa	9,817
Pecos Oil Co., Best	77,454
Phillips, J. R., (Currie), Amarillo	16,088
Phillips, J. R.—Invader Drilling Co., Amarillo	10,026
Phillips, J. R.—Heywood Lease, Amarillo	13,416
Phillips, J. R. (Blasdell) Weatherly Lease, Amarillo	145
Prairie Oil & Gas Co., The, Independence, Kan.	1,273,666
Prairie Oil & Gas Co., The-Prairie-Shamrock Opr. Acct., Independence, Kan.	89,401
Py-Tex Oil Co., Winchester, Ky.	21,154
Pace & Ward, Breckenridge	2,861
Primrose Oil Co., Sour Lake	1,609
Pois, M., et al, Wichita Falls	4,775
Pois, M., Trustee, Twenty Acres, Wichita Falls	307
Pois, Fine & Schulz, Wichita Falls	1,464
Pois & Johnson, Wichita Falls	925
Producers Supply & Tool Co., The Marietta, Ohio	728
Paggi Bros., Oil Co., Beaumont	14,475
Paggit & Co., Chas., Beaumont	1,550
Prescott-Phoenix Oil & Gas Co., Wichita Falls	1,687
Pennowa Oil & Gas Co., Skiatook, Okla.	12,497
Producers Drilling Co., Wichita Falls	13,043
Petroleum Producers Co., Wichita Falls	180,772
Pennok Oil Corp., Tulsa, Okla.	20,444
Pantex Oil Co., Fall River, Mass.	28,776
Perkins & Cullum, Wichita Falls	50,267
Perkins, J. J., Wichita Falls	3,353
Pilkenton, F. L., Burkburnett	2,826
Payne, F. G., et al., Wichita Falls	3,120
Philip Bros., Beaumont	2,296
P-M Drilling Co., et al, Chelsea, Okla.	275
Phillips, W. G. and J. B. Milam, Chelsea, Okla.	141
Palmer & Burch, Wichita Falls	3,562
Pioneer Oil, Gas & Ref. Co., Danville, Ill.	1,342
Phillips Petroleum Co., Bartlesville, Okla.	1,689,924
Prairie Lea Production Co., San Antonio	11,312
Powers Production Co., Houston	2,566
Poor Boy Oil Co., Rockdale	567
Parsons, Ed. V., Fort Worth	274
Pitzer & West, Breckenridge	25,941
Pickens & Lewis, Dallas	784
Thos. H. Peery (Part of C. W. Boller Lease), Wichita Falls	1,507
Quinn, J. W., et al, Eastland	16,617
Quakins Petroleum Co., The, Ranger	4,556
Quartet Oil Co., Tulsa, Okla.	8,146
Quincy Oil Co., Electra	207
Reeder & Scarborough, Wichita Falls	1,008
Rountree, White & Simpson, Rockdale	1,208
Rannell Oil Co., The, Oklahoma City, Okla.	5,386
M. C. and Summerfield G. Roberts, Dallas,	286
Rayzor, J. P., Wichita Falls	607
Ridgeway, G. R., Wichita Falls	1,193
Ridgeway, G. R., (3-31-28), Wichita Falls	1,613
Ridgeway, G. R. (12-31-27), Wichita Falls	2,903
Ridgeway, G. R., (9-30-27), Wichita Falls	3,735
Ridgeway, G. R., (6-30-27), Wichita Falls	5,012
Ramsey, E. H., Rising Star	1,094
Reno Oil Co., Sistersville, W. Va.	49,307
Rentex Oil Co., San Antonio	9,210
Roeser & Pendleton, Inc., Fort Worth	372,894
Reclamation Co., The, Fort Worth	8,006
Robinson, Arthur D., Dallas	12,660
Rhader & Carey, Wichita Falls	8,802

Name and Address—	Barrels
Reiter-Foster Oil Corp., Tulsa, Okla.	7,554
Rubsam & Hunter, Wichita Falls	2,252
Reinhart, M. J., Trustee, Oklahoma City, Okla.	620
Rowe, J. G., Wichita Falls	986
Ruby Oil Co., J. W. Roark Lease, Minerva	245
Ross & Slicker Oil Co., Cisco	1,127
Ross, C. E., Burkburnett	745
Rycade Oil Corp., Houston	208,000
Rio Bravo Oil Co., Houston	580,735
Ray-O-Oil Corporation, Houston	688
Ramming, R. W., Wichita Falls	7
Ramming, W. F., Wichita Falls	31
Ramming & Saunders, Wichita Falls	4,305
Ramming, Staley & Ramming, Wichita Falls	862
Ruthada Oil Co., Oklahoma City, Okla.	17,726
Riley, Henry, Receiver for J. T. Parks, et al, Amarillo	11,620
Rex Petroleum Corp., Orange	27,588
Riggs & Oliphant, Graham	16,698
Republic Production Co., Houston	1,430,593
Rockwell, J. A., & Co., Warren, Pa.	2,721
Rex-Tex Oil Co., Winchester, Ky.	2,154
Red River Oil Co., Tulsa, Okla.	18,253
Ryan Consolidated Pet. Corp., Bartlesville, Okla.	67,579
Rockdale Oil Co., Rockdale	61
River & Bailey, Wichita Falls	27,178
Rochmill, Henry, Trustee, Fort Worth	1,246
Ramsel, W. T., Oil Co., Rockdale	2,267
Rio Grande Pet. Corp., Houston	1,723
Rolyat Production Co., Houston	8,028
Russell & Wilson, Wichita Falls	6,402
Ross, James F. (Jones-Garcie lease), Laredo	687
Ross, James F. (Jones Mercedes lease), Laredo	777
Ross, James F. (Poor Boy lease), Laredo	674
Ross Amigos Oil Co., Laredo	12,200
Ross Segunda Oil Co., Laredo	905
Ruyle Farm & Oil Co., Wichita Falls	8,270
Rockdale Junior Oil Co., Rockdale	300
Regna Oil Co., Saratoga	4,952
Robert Oil Corp., Breckenridge	10,500
Rock Island Oil Co., Amarillo	5,161
Relief Oil Co., Amarillo	15,725
Roxana Pet. Corp., St. Louis, Mo.	3,178,997
Rathke Oil Co., Wichita Falls	25,686
Root, C. M., et al, Eastland	531
Root, Rhodes, et al, Eastland	18,797
Root & Rhodes, Eastland	14,418
Root, C. M., Eastland	23,308
Root, C. M., et al, Eastland	7,503
Rosenberg, Jacob, Tulsa, Okla.	101
Rosenberg, Jacob, Trustee, Tulsa, Okla.	22
Rhodes & Highers, Breckenridge	7,273
Robinson, O. D., Pittsburgh, Pa.	1,617
Ray & Massie, Wichita Falls	109,464
Ramsey & Decker, Breckenridge	2,261
Russell-Sanderson Oil Co. No. 3, Fort Worth	None
Reeder, R. S., et al, Wichita Falls	7,517
Ray Featherston Oil Co., Inc., Wichita Falls	1,992
Riley, Henry, Receiver of Marine Corporation, Amarillo	2,236
Red Bank Oil Co., Tulsa, Okla.	27,370
Saigh, N. A., San Antonio	2,531
Stidham & Thrasher, Electra	542
Stock, H. L., Cisco	2,037
Superior Oil Producing Co., Tulsa	4,028
Seaboard Oil & Gas Co. of Texas, Wichita Falls	31,927
Sircovich, A. and Mrs. F. M. Thomas, Houston	668
Schlicher Oil Co., Beaumont	1,005
Staley, J. A., Wichita Falls	2,707
Stella Oil Co., Beaumont	18,188
Sessions, I. P., Rockdale	356
Saledo Oil & Gas Co., San Antonio	1,836
Shemen Oil & Gas Co., Pittsburgh, Pa.	102
Sindorf & Sindorf, Caddo	1,209
Smith & Bynum, Amarillo	3,882
Swanner, John L., Wichita Falls	2,985
Schaffner, E. N., et al, Cross Plains	2,176
Supreme Oil Co., Orange	4,492
Stekoll, Harry, successor to Pattison-Lenix Oil Co., (3-31-28), Borger	4,958
Shoup, O. H., Jr., Colorado Springs, Colo.	4,708
S. & W. Oil Co., Amarillo	17,892
Shappell Oil Co., Wichita Falls	59,887
San Balt Pet. Co., Kansas City, Mo.	417
Seaboard Oil & Gas Co. of Texas, (3-31-28), Wichita Falls	4,781

Install a RANKIN Double Trip Standing Valve Crown

and save at least fifty per cent. of well pulling jobs. It works in connection with 1¾" valves commonly used. Will drain tubing by dropping rods on bottom.

Cut on left shows crown with 1¾" valves. At right is shown the crown only.

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Treat CUT OIL *with* TRET-O-LITE

the SIMPLEST MOST ECONOMICAL MOST RAPID METHOD

Just mix in Tret-O-Lite, and oil and water promptly separate. Let us send our nearest field expert to see you.

WM. S. BARNICKEL & CO.

St. Louis, Mo.

Offices and Plant:

Webster Groves, St. Louis County, Mo.

Name and Address—	Barrels
Seaboard Oil & Gas Co. of Texas, (3-31-28), Wichita Falls	30,969
Shattuck, R. H., Dallas	2,508
Steed, Paul P., Wichita Falls	3,255
Stovall, E. C., Graham	13,206
Seyler, Wm., Tulsa, Okla.	70
Sedwick Oil Co., Tulsa, Okla.	16,378
Smith, R. E., et al, Houston	16,864
Sinclair Oil & Gas Co., Houston	154,407
Speed, C. D., Corsicana	315
Standard Oil Land & Leasing Co., Electra	235
Strelsky, Joe, and Gamble, Rockdale	621
Somerset Oil Co., San Antonio	1,248
Stekoll, Harry, successor to Pattison-Lenix Oil Co., (12-31-27), Borger	None
Shaw-Fox & Adams, Burkett	2,989
Shaw, Archie, Burkett	12,895
Schaffner-Wilson, et al, Wichita Falls	1,807
Skinner, E. W., Oil Co., Saratoga	4,919
Spring Creek Oil Co., Amarillo	8,273
Scarborough, W. A., et al, Burkburnett	1,060
Scarborough, W. A., Burkburnett	2,451
Southern Petroleum Exploration, sistersville, W. Va.	5,847
Star Drilling Co., Wichita Falls	5,473
Somerset Crude Oil & Ref. Co., Somerset	3,333
Saratoga Oil Co., Wichita Falls	1,357
Southern Exploration Co., Houston	1,331
Slick, T. B., et al., Oklahoma City, Okla.	12,287
Simms Oil Co., Dallas	907,475
St. Albans, Edward, Laredo	2,497
Skia-Tex Petroleum Co., Amarillo	46,872
Schoolfield, R. F., Wichita Falls	252
Schermerhorn Oil Co., Tulsa, Okla.	2,138
Snowden & McSweeney Co., New York, N. Y.	47,152
Swensondale Oil Co., Callo	10,745
Stekell, Harry, Borger	4,087
Shuler Davis Co., Brownwood	3,027
Sheffield, Frank H., Houston	1,309
Stroube & Stroube, Corsicana	45,503
Smith, McIntosh & Thomas, Cameron	882
Smith, E. L., Oil Co., Inc., Mexia	183,464
Sun Oil Company, Dallas	512,969
Stamphli & Kell, Wichita Falls	249
Shaw Oil Company, Wichita Falls	35,864
Scott & Walker, Albany	5,169
Sigler Oil Co., Wichita Falls	1,383
Shamrock Co., The, Inc., Wichita Falls	3,082
Summit Oil & Ref. Corp., Amarillo	9,972
Scott & Nance, Graham	1,262
Scott & Britton, Graham	191
Snider, C. W., Wichita Falls	1,541
Shasta Oil Co., Wichita Falls	1,550
States Oil Corp., Eastland	42,650
Skelly Oil Co., Tulsa, Okla.	255,753
Stoops, J. P., Ranger	234
Staley, J. I. & Co., Wichita Falls	4,908
Staley, Wynne & Co., Wichita Falls	54,325
Sink, Joel, Corsicana	190
Sheldon, W. J., Electra	3,249
Sheldon, C. P., Electra	10,331
Smith & Brady (M. L. V. Smith), Vernon	891
Sunny Jim Oil Co., Tulsa, Okla.	8,497
St. Marys Oil & Gas Co., St. Marys, W. Va.	28,222
Seybert Bros., Mooringsport, La.	2,323
Shertzer Bros., Dewey, Okla.	15,539
Southern Crude Oil Purchasing Co., Shreveport, La.	2,355,767
Summerfield Oil Co., Tulsa, Okla.	301
Shasta Oil Co., Laredo	856
Simmons, T. K., Tulsa, Okla.	5,422
Somerset Oil Co. of Mass., Easthampton, Mass.	89
Sinclair Oil & Gas Co., Tulsa, Okla.	137,968
Smith, Jas. L., Estate, Amarillo	14,138
Smith-Hanlon, Inc., Tulsa, Okla.	38
Stephens Oil Co., Sour Lake	514
Stephens Oil Co., Sour Lake	545
Smith, McIntosh & Thomas, A. H. Branch lease, Cameron	2,004
St. Louis Oil & Dev. Co., Wichita Falls	400
Selby Oil & Gas Co., Tulsa, Okla.	13,836
Stump, E. J., & Co., and Harry Hines, Wichita Falls	2,325
Schimel Production Corp., Fort Worth	29,033
Tripplehorn, J. W., Fort Worth	3,818
Trinity Townsite Co., Dallas	670
Trans-Bay Oil Co., Galveston	90
Tyson Oil Co., Sour Lake	571
Taylor-Link Oil Co., Houston	27,593
Texota Petroleum Co., Electra	484
Trimount Petroleum Co., Shreveport, La.	6,357
Tower & McKanna, Inc., Wichita Falls	7,818
Texas Consolidated Oil Co., San Francisco, Cal.	15,204
Tegler, F. E., San Antonio	600
Triangle Oil Co., Rockdale	1,664
Taylor-Sibley Syndicate, Dallas	2,237
Tate-Weekley & Tubb, Fort Worth	12,636
Texas Pet. Development Co., Cameron	5,960
Texas Unity Oil Co., Dallas	4,668
Triangle Oil Co., Wichita Falls	555
Tidwell, H. L., Trustee, Graham	8,235
Trinity Production Co., Wichita Falls	509
Texas Pacific Coal & Oil Co., Other Companies for, Thurber	80,046
Texas Pacific Coal & Oil Co., Thurber	331,198
Tucker & Fox, Dallas	885
Tucker, W. B., Dallas	340
Texas Co., The, Houston	3,293,960
Thaxton, W. H., Estate, Austin	319
Two Republics Oil & Gas Co., Laredo	11,082
Triangle Petroleum Co., Inc., The, Fort Worth	1,282
Texas Standard Oil Co., Houston	1,428
Tholl Oil Co., Beaumont	4,794
Thompson, J. E., Humble	594
Thomasson & Co., Inc., E. M., Denver, Colo.	1,047
Texas Fidelity Oil Corp., Louisville, Ky.	10,003
Tidwell, R. V., Trustee, Graham	5,334
Travelers Oil Co., Amarillo	21,652
Teatsorth, L., et al, (Property No. 1), Eastland	2,730
Teatsorth, L., et al, (Property No. 2 and 3), Eastland	1,270
Tillery, L. J., Oil Co., Inc., Beaumont	8,341
Turman, L. C., Fort Worth	97,513
Tidal Oil Co., Trustee for the Associated Oil Co., Texas Division, Tulsa, Okla.	20,298
Tidal Oil Co., Tulsa, Okla.	275,906
Tidal Osage Oil Co., Tulsa, Okla.	9,091
Timblin, W. E., Wichita Falls	196
Terry, H. M., Sour Lake	10,946
Theis Oil Co., Sour Lake	4,017
Talley & Irick, Shreveport, La.	198
Trumbo, A. C., Trustee, Prescott-Phoenix Oil & Gas Co., Muskogee, Okla.	99
Tannehill, L. B., Albany	50,151
Transcontinental Oil Co., Tulsa, Okla.	811,556
Transcontinental Oil Co., Tulsa, Okla.	61,713
Transcontinental Oil Co., Tulsa, Okla.	6,557
Teci Production Co., Breckenridge	2,749
Texas-Electra Co., Newark, Ohio	330
Tucker Oil Co., Wichita Falls	58,799
Tillman, J. W., Humble	421
Texon Oil & Land Co. of Texas, Big Lake	519,724
Underwood Drilling Co. (Maryland-Con-Solidated-Underwood Ward A Lease), Wichita Falls	5,694
Underwood Drilling Co. (Underwood-Consolidated Ward Lease), Wichita Lease	2,557
Underwood Drilling Co. (Erwin Lease), Wichita Falls	1,092
Unity Oil Co., Beaumont	16,093
United Pet. Co., The, Brownwood	142
Union Production Co., Inc., Rockdale	5,676
United Producers Co., Wichita Falls	3,004
United Royalties Corp., Wichita Falls	6,082
Unice & Carpenter, Houston	6,557
United Oil & Fuel Co., The, Sour Lake	1,187
Upland Oil Co., Amarillo	7,465
Vacuum Oil Co., Houston	7,495
Val Verde Oil Co., Del Rio	2,040
Virginia Oil Assn., Inc., Fort Worth	2,986
Van Cleave Trust, Baltimore, Md.	668
Vergate Oil Co., Tulsa, Okla	8,875
Van Wormer, F. E., Wichita Falls	1,207
World Oil Co., Fort Worth	2,582
Wichita Petroleum Co., Tulsa, Okla.	1,845
West, J. H., Cisco	4,819
West, J. F., Cisco	405
Watson, M. B., Fort Worth	700
West, Mrs. Bessie M., Houston	2,173
Weiler, J. G., et al, Cross Plains	2,453
White, Alexander S. (3-31-28), Tulsa, Okla.	10,988
West Texas Land Co., ((6-30-27), Fort Worth	1,607
West Texas Land Co., (9-30-27), Fort Worth	1,847
West Texas Land Co., (12-31-27), Fort Worth	1,323
West Texas Land Co., (3-31-28), Fort Worth	1,445
Webb Oil Co., Humble	5,015
Woodward & Lee, Houston	19,421
Western Oil Corp. of Texas, Wichita Falls	23,834
Wolfe, A. T., & Son, Wichita Falls	3,413
Woods & Bennett, Humble	7,064
Woodburn Oil Corp., Dallas	5,454
Waggoner, R. M., Estate, American Ref. Properties, Wichita Falls	2,245
Watchorn, Robert, Oklahoma City, Okla.	201
Waggoner Refining Co., Inc., Electra	151,906
Wakefield, M. E., et al, Cross Plains	348
Witcher, Annie L., Guardian, Wichita Falls	2,588
Witcher & Michel, Wichita Falls	264
Wills Oil Co., Rockdale	2,167
Weed-Gayle Oil Co., Beaumont	75,993
Worth Oil Co., Wichita Falls	140
Westervelt-Noble, et al, Oklahoma City, Okla.	3,253
White & Duncan, Wichita Falls	4,732
Wo-Mac Oil Co., Wichita Falls	2,655
Warner-Quinlan Co. of Texas, Dallas	300,670
Wampem Oil Corp., Dallas	1,608
Westem Oil Sales Corp., Wichita Falls	5,604
West Production Co., Houston	7,063
Wichita Production Co., Wichita Falls	13,835
Wheelock & Collins, Corsicana	20,965
Webb, J. R. and J. H. Bryant, Corsicana	571
Watts Oil Co., Houston	31,502
Westheimer & Daube, Ardmore, Okla.	1,179
Williams, J. H., Dallas	5,262
Wood, Benton, Lesh & McCall, Nocona	9,154
Wilson, Lee, et al, Wichita Falls	10,966
Weiler, H. J., Wichita Falls	305
Why Not Oil Co., Mexia	13,384
Weave & Pois, Wichita Falls	3,428
Weister, E. P., Tulsa, Okla.	3,367
Walker, B. S., Breckenridge	1,256
Windham & Philhenton, Burkburnett	2,446
Weldon Oil Co., Saratoga	9,122
Wallace, Dr. Charles William and wife, Hulda B., Wichita Falls	29,537
Witherspoon Oil Co., San Antonio	25,616
Witherspoon Refining Co., San Antonio	10,412
Wentz, L. H. (Oil Division), Ponca City, Okla.	34,933
Ward Oil Corp., Ardmore, Okla.	2,362
Wilson Drilling Co., (Rathke), Wichita Falls	3,565
Wilson Drilling Co., (K.K."C"), Wichita Falls	1,645
Wilson Drilling Co., (K.K."A&B"), Wichita Falls	3,409
Wilson Drilling Co., (Snedeker), Wichita Falls	218
Wilson Drilling Co., (Comet), Wichita Falls	4,440
Wahpoo Oil Co., Rockdale	1,980
White Eagle Oil & Ref. Co., Kansas City, Mo.	72,196
Wilkins, L. A., Burkburnett	2,777
Williams, Burt, Wichita Falls	878
Wilson-Broach Co., The, Beaumont	21,829
White, Alexander S., Tulsa, Okla.	15,392
Wise & Jackson, Sapulpa, Okla.	3,034
Wilcox, H. F., Oil & Gas Co. of Texas, Tulsa, Okla.	82,133
Whitehill Oil Corp., The, Tulsa, Okla.	6,986
Whaley Mineral & Realty Trust, Fort Worth	2,639
Woody, W. C., (Part of C. W. Boller Lease), Wichita Falls	1,507
Yount-Lee Oil Co., Beaumont	3,148,550
Young Brothers & Alexander, Inc., Fort Worth	11,306
Zadie Belle Oil Co., Fort Worth	265
Barkley & Meadows, Wichita Falls	94,814
Craft & Rehn, Inc., Fort Worth	
Fogle Oil Co., Minerva	1,859
Orth, T. R. T., Wichita Falls	415
Minntex Oil Corp., Wichita Falls	624

OKLAHOMA QUARTERLY PRODUCTION REPORT FOR SECOND QUARTER, 1928

Following is a list of companies reporting to the Oklahoma Corporation Commission on Gross Production Tax from oil and gas production. The list gives those companies which reported production valued at more than $5,000 or royalty of more than $2,000.

Asterisk (*) opposite the name indicates royalty. Dagger (†) indicates value shown includes gas production.

Name, Address—	Barrels	Amount
Accumulative Royalties Corp., Tulsa	14,780.14	$ 17,185.24
Amerada Pet. Corp., Tulsa	12,435.73	16,293.65
Amerada Pet. Corp., Tulsa	906,972.87	1,229,364.91
Amerada Pet. Corp., Tulsa		† 57,326.44
Adams and Prince, Amarillo, Texas		5,291.32
Adams Royalty Co.,* Chicago, Ill		3,930.73
Adams Royalty Co.,* Chicago, Ill.	69,620.34	102,135.75
Atlantic Oil Producing Co., Dallas, Texas		†29,462.30
Atlantic Oil Producing Co., Dallas, Texas	501,922.64	668,827.20
Atlantic Oil Producing Co.,* Dallas, Texas	9,595.21	†14,136.69
Atlantic Oil Producing Co.,* Philadelphia, Pa.		16,025.03
Ada Gas Co., Ada		66,508.55
Alma Royalties Corp.,* New York City		17,052.01
D. W. Anderson,* Wewoka		2,448.95
B. H. Ashby,* Dallas, Texas		2,638.25
A. D. Adcock,* Okmulgee		5,176.26
Agirine Oil & Gas Co.,* Tulsa		3,205.14
Walter Andrews,* Weslaco, Texas		2,174.25
Joe Abraham estate.* Bristow		6,410.02
Argo Oil Co., Denver, Colo.	41,867.47	†100,882.60
American Pipe Line Co., Wichita Falls, Tex.	8,975.49	11,978.90
American Royalty Pet. Co.,* Tulsa	2,545.07	3,966.56
American Oil Development, Pittsburg, Pa.	5,683.81	7,391.30
American National Bank,* Ardmore		2,031.14
Arkansas Fuel Oil Co., Shreveport, La.	7,762.80	7,788.22
B. N. Altom,* Tonkawa		10,488.97
H. N. & Ethel Andrews,* Newkirk		2,676.16
James M. Anthis,* Muskogee		2,302.49
Atlantic Oil Producing Co.,* Philadelphia, Pa.		3,047.89
N. L. Amster, Ardmore	7,285.67	9,196.84
S. A. Apple,* Oklahoma City		20,420.91
Arthur Oil Co., Sistersville, W. Va.	9,577.98	†11,533.23
B		
Gladys Bell Oil Co., Tulsa	16,006.41	†24,421.27
Gladys Bell Oil Co.,* Tulsa	13,259.96	†18,969.09
S. J. Brown,* Duncan		2,604.47
W. E. Brown,* Tulsa		5,961.83
Bridwell Oil Co., Wichita Falls	16,434.70	19,839.36
Berry Petroleum Co., Tulsa	15,121.72	†19,672.39
Geo. S. Bole, Tulsa	13,251.76	†18,137.57
Geo. S. Bole,* Tulsa	2,046.31	2,943.83
V. E. Bolene,* Enid		2,108.51
Bermont Oil Co.,* Bristow	5,445.86	†7,575.12
Blackwell Oil and Gas, Cushing		115,765.66
Bisett, Lytle and Gray, Tulsa	10,126.21	12,656.69
Bay State Oil & Gas Co., Kansas City, Mo.	10,696.09	14,506.19
Belco Royalties, Inc.,* New York City		35,546.55
Barbara Oil Co., Oklahoma City	8,843.67	†12,284.82
Barnsdall Oil Co.,* Tulsa	1,850.72	2,315.36
Barnsdall Oil Co., Tulsa	1,697,749.15	2,258,760.99
Barnsdall Oil Co., Tulsa		†58,044.55
Beard and Crump, Duncan	8,805.39	10,757.94
J. G. Beard, J. L. Crump and S. I. Kolb,* Duncan	9,768.46	12,078.53
Black, Sivalls & Bryson, Inc.,* Bartlesville	8,049.62	10,900.58
Braman Oil Co., Inc., Tulsa	6,794.36	9,303.41
James Brazell,* Oklahoma City		3,249.27
I. T. Bond,* Comanche		2,903.19
Frank Buttram, Oklahoma City	4,998.05	†7,146.81
Frank Buttram,* Oklahoma City		17,226.46
Mrs. E. M. Billings,* Enid		2,290.71
W. S. Billings,* Enid		2,112.14
Geo. M. Billings,* Long Beach, Calif.		2,166.28
F. R. Billingslea, Tulsa		18,256.96
J. J. Brown, Jr.,* Wichita, Kansas		3,189.31
A. C. Brown Oil Enterprise, St. Louis, Mo.	5,166.13	6,280.44
J. W. Brown,* Blackwell		2,058.91
H. C. Becker (suspense), Drumright		11,988.83
S. D. Burns, Preston		8,340.60
E. M. Boring, Oklahoma City	15,942.87	†19,947.62
C. E. Burlingame, Bartlesville	7,077.67	9,604.60
Burke Greis Oil Co., Tulsa		49,267.10
John F. Burke* & H. N. Greis, Tulsa		10,989.48
Roy Buckner,* Wewoka		3,100.24
Burke Hoffeld Oil Co., Tulsa	5,132.59	6,446.08
J. H. Buck and wife,* Shawnee		2,759.24
E. A. & Anna Bradley, Tulsa	8,205.48	9,781.94
Augusta Bucholz,* Perry		2,055.14
Beacon Oil Co., Bartlesville	6,335.94	7,230.14
Big Twelve Oil & Gas Co., Frederick		8,673.86
L. J. Burkhalter,* Blackwell		3,099.91
Hubert Barnum,* Kaw		3,331.15
James Brann, Bartlesville		6,024.76
Britton Johnson Oil Co., Tulsa	7,018.15	7,091.30
Geo. F. Breen, New York City		5,564.97
Chas. W. Boogs, Los Angeles		7,559.88
E. R. Bechtel,* Blackwell	2,361.91	3,321.92
W. L. Brittain,* Oklahoma City		3,324.92
Mrs. Mary F. Barrett,* Austin, Texas	2,084.73	2,647.61
Thos. N. Berry,* Stillwater		12,391.72
John H. Bennett,* Ardmore		2,952.13
G. H. and Annie Barker,* Shawnee		9,370.95
May Blasdel,* Blackwell		2,593.07
Ben Boepple,* Enid		2,067.93
Braden and Moore, Tulsa	6,073.00	7,762.87
J. H. Bellis,* Cushing		5,325.83
F. A. Beverlin,* Wichita, Kansas		18,358.98
James Ballard,* Cushing		3,413.39
C. B. Billington,* Shawnee	3,092.57	4,230.34
J. L. Bryan,* Chicasha		2,298.93
Bryan and Emery, Inc., Tulsa	9,888.51	†19,121.20
J. W. Bird and Wm. Hanlay, Bradford, Pa.	6,048.22	7,520.82
W. O. Broyles,* Stillwater		2,305.30
G. M. Berry,* Pawnee		11,153.84
J. M. Bumpass,* Duncaan		3,847.45
Wm. Buck,* Wetumka		2,263.61
H. E. & Jessie F. Bryant,* Shawnee		31,999.25
W. I. Barker,* Ada		8,464.82
J. A. Barnett & L. M. Baker,* McLoud		2,588.14
T. K. Baker,* Okmulgee		5,176.26
Baker & Strawn,* Tulsa	7,804.06	9,439.26
T. J. Baker,* Okmulgee		3,637.03
C		
Dorothy Carmichael,* Tonkawa		2,534.86
Colson Oil Co., Tulsa	10,764.14	12,192.18
Comar Oil Co., St. Louis Mo.	847,867.83	1,230,159.67
Comar Oil Co., St. Louis, Mo.		†35,253.51
Conservation Oil Co., Tulsa	10,605.89	14,010.03
Conservation Oil Co., Tulsa	10,605.89	14,010.03
Crude Oil Royalties Corp.,* New York City		15,439.24
Cudahy Oil Co.,* Cleveland Ohio	13,384.18	15,277.65
Central Valley Oil Co.,* Cleveland, Ohio		4,438.02
Calloway Rogers and Rosa Rogers,* Earlsboro		50,575.26
Cushing Refined Oil & Gaso. Co., Cushing		9,829.97
J. S. Cosden, Inc., Ft. Worth, Texas	130,082.77	202,970.26
Continental Oil Co.,* Tulsa	2,993.54	4,094.10
Continental Oil Co., Tulsa	5,555.79	†8,789.92
Continental Oil Co., Denver, Colo.	225,634.06	†291,646.88
Continental Oil & Ref. Co., Independence, Kansas	6,217.07	7,188.34
Continental Oil Co., Wichita Falls, Texas		19,787.07
Carter Oil Co., Tulsa		†241,299.03
Carter Oil Co., Tulsa	2,705,704.91	3,505,122.76
Cities Service Gas Co., Bartlesville		†46,123.83
Cotton Belt Pet. Co., Tulsa	43,926.14	†55,275.79
Central Oil Royalties, Inc.,* New York City		10,525.82
Central National Bank, Okmulgee		10,035.43
Coline Oil Co., Oklahoma City	56,755.55	50,795.94
Coline Oil Co., Oklahoma City	5,637.02	6,738.27
Champlin Refining Co., Enid	146,155.69	†240,101.92
Colonial Royalties Co.,* Tulsa		7,391.38
Central National Bank, trustee, Okmulgee		5,409.62
S. C. Canary, Tulsa	6,601.93	7,935.15
Commercial Drilling Co.,* Tulsa		3,930.74
Creo Oil Co., Tulsa	6,225.86	7,169.19
J. O. Chapman,* Waxahachie, Texas		2,033.45
Cumberland Petroleum Co., Cleveland, Ohio	8,935.27	9,915.73
Anna Elizabeth Cox,* Ardmore		4,824.28
Edwin B. Cox and Jake L. Hamon,* Ardmore		29,005.19
R. W. Coe,* Ardmore		2,140.36
Cal-Cul Oil Co.,* Okmulgee		3,342.96
Clark and Cowden,* Duncan	18,016.29	24,848.47
H. E. Clark,* Okmulgee		5,852.81
H. E. Clark, Okmulgee		7,633.53
Commercial Drilling Co.,* Tulsa	2,220.47	2,946.40
Commercial Drilling Co., Tulsa	3,318.12	3,887.27
Carson Oil Co., Okmulgee	3,583.70	†5,098.59
Fred Chilcoat,* Wewoka		2,578.15
Meds May Craig,* Russellville, Ark.		3,072.86
W. H. Cecil,* Tecumseh		7,277.16
G. W. Connelly, Caney, Kansas		11,244.82
A. D. Cochran,* Okmulgee	3,416.67	5,458.08

Name, Address—	Barrels	Amount
Columbia Royalty Co.,* Tulsa		2,025.09
Samuel J. Caudill,* Tulsa	2,009.87	2,879.67
Crews Est. Oil & Gas Prod. Co., Enid	9,207.15	†15,633.72
L. E. Crews Heirs,* Enid	1,315.32	2,102.85
L. M. Clubb,* Kaw	9,319.68	13,044.39
Laura A. Clubb,* Tulsa		13,061.58
A. V. Cluck,* Shawnee		12,944.44
M. K. Cruce,* Oklahoma City		5,819.89
W. I. Cruce et al,* Ardmore	3,908.54	4,789.98
Caddo Oil Co., Tulsa	32,206.06	40,023.89
W. S. Cline, trustee,* Newkirk		2,202.11
W. S. Cline,* Newkirk		3,689.60
D		
Devonian Oil Co., Tulsa	62,287.11	81,126.85
Devonian Oil Co., Tulsa	.....	†7,717.21
Darby Pet. Corp., Tulsa	166,562.61	†252,289.42
Darby-Lynde Co.,* Tulsa	1,707.58	†2,385.23
Darby-Lynde Co., Tulsa	1,536.69	†3,941.18
V. E. Dillard,* Ardmore		4,025.11
I. F. Day,* Earlsboro	3,219.48	4,357.78
Don Oil Co., Blackwell		†10,473.28
Delaware Consolidated Oil Co., Tulsa	36,964.99	42,534.42
Denver Prod. and Ref. Co., Okmulgee	34,938.26	46,696.95
Doss Oil Royalty Co.,* Oklahoma City	16,015.99	20,400.15
Delmar Oil Co., Bartlesville	20,655.64	†28,632.21
Dixie Oil Co., Inc., Shreveport, La.	121,651.17	†166,352.14
W. Y. Dilley, trustee,* Waurika	5,392.64	4,837.56
E. Dickason,* Gueda Springs		2,518.40
Anna Maud Durdy,* Brighton, Colo.		5,224.13
J. H. Dillard (By Roxana Pet. Corp.), Tulsa		3,929.18
J. I. Deaner,* Okmulgee	2,468.60	3,463.41
I. J. Deaner,* Okmulgee	13,148.84	17,928.50
Dover Inv. Co.,* Bartlesville	1,795.18	2,383.93
Mable Dale Potts,* Yale		4,863.30
John J. Dempsey, Huntington, N. Y.		7,643.14
I. L. Dixon,* Wewoka		4,764.23
I. C. Doneghy,* Tulsa	6,880.56	9,265.64
Clarisa Diveley,* Covington		2,036.97
I. F. Darby,* Muskogee		2,478.88
Clement Davis,* Shawnee		2,828.10
C. E. Denney,* Alma		3,006.33
J. F. Dowell,* Stroud		2,205.64
P. C. Dings,* Chicago, Ill.	1,990.91	2,145.49
M. S. Douglass,* Weleetka		3,180.39
H. T. Douglass,* Shawnee		10,228.89
Annie Day,* Earlsboro	6,439.37	8,715.62
W. L. Dixon,* Duncan	2,235.97	2,692.02
U. T. Duncan,* Blackwell		2,011.80
D. B. Duff, Cleveland, Ohio		6,889.55
W. R. Duke,* Wichita Falls, Texas		2,473.96
B. F. Davis,* Wewoka		14,212.47
Jos. Davis, Tulsa	1,267.62	†1,753.37
Jos. Davis, Tulsa	340.42	365.08
Jos. Davis and H. P. Taubman		†2,097.20
Jos. D. Davis, Tulsa	4,095.74	5,641.86
Delk Investment Corp.,* St. Louis, Mo.		4,585.53
Deep Rock Oil and Ref. Co., Tulsa	44,461.19	63,949.89
L. S. Doleman,* Ardmore		2,749.74
Jessie P. Doleman,* Ardmore		4,034.97
E		
Eastern Royalties Corp.,* N. Y. City		13,298.41
Empire Oil and Ref. Co., (suspense), Bartlesville		17,346.35
Empire O. & R. Co., (suspense), Bartlesville	309,338.62	405,378.22
Empire O. & R. Co.,* (suspense), Bartlesville	23,376.21	31,328.27
Empire O. & R. Co.,* (suspense), Bartlesville		2,588.12
Empire O. & R. Co., (suspense), Bartlesville		14,763.03
Elm Oil Co.,* Tulsa	2,429.93	†3,224.62
Elm Oil Co., Tulsa	8,689.96	†11,058.34
Equitable Royalty Corp., Shawnee		9,719.77
R. J. Edwards,* Oklahoma City		2,663.88
T. T. Eason,* Enid	4,818.58	7,149.97
T. T. Eason, Enid	7,883.24	10,357.20
Ellis Drilling Co., Wichita Falls	7,309.83	9,236.75
Eagle Gasoline Co., Tulsa		5,614.15
Enid Bank and Trust Co.,* Enid		8,077.72
Elaine Oil Co.,* Tulsa	1,981.37	2,472.45
Elliott & Smith, Tulsa	7,532.28	9,837.05
W. C. Elliott,* Tulsa		2,316.45
Elliott & Vensel, Tulsa		7,396.60
Lewis Emery, Jr., & Sons, Bradford, Pa.	5,880.09	6,340.43
P. C. Elswick,* Lamont		5,122.30
Eagle Picher Lead Co., Henryetta	2,385.72	†6,486.20
Exchange Trust Co.,* Tulsa		3,950.62
Edgewood Oil Co., Tulsa	6,130.07	7,796.32
C. C. Endicott,* Tonkawa		2,861.94
F		
Wirt Franklin, By Liberty Nat. Bank., Trustee, Okla. City	3,013.81	†3,620.40
Wirt Frankin and Mary C. Cates,* Ardmore	2,484.86	3,036.09
Wirt Franklin, Ardmore	241,895.99	288,563.59
Wirt Franklin, Ardmore	626.61	630.20
Wirt Franklin, Ardmore	15,729.92	18,571.22
Finance Oil Co., Gowanda, N. Y.	15,393.24	19,379.27
Fox Royalty Co.,* Tulsa	5,704.23	6,229.86
Fox Royalty Co., Tulsa	10,979.64	12,023.41
Fuhrman Pet. Co., Okmulgee	7,624.66	15,810.53
G. W. Frazier,* Kingfisher		15,200.06
James F. Foster,* Anthony, N. Mex.		4,117.53
Foster Pet. Co.,* Bartlesville	3,189.80	4,294.10
Foster Pet. Co., Bartlesville	146,860.12	197,298.07
Foster and Davis, Inc., Bartlesville	8,789.97	11,117.60
Foster Oil Co., Bartlesville	7,626.03	11,066.28
Fern Oil and Gas Co., Yale		12,105.21
Gus Forbes, Okmulgee	3,867.75	4,792.02
N. B. Feagin et al,* Ardmore		6,084.96
Alice Fleet, Gdn.,* Ada		4,194.62
D. F. Fleet,* Ada	33,395.00	40,519.17
Carl Fleet et al,* Ada		2,215.30
C. W. Falkenburg,* Wewoka		3,363.14
Fort Ring Oil and Gas, Ft. Worth, Texas		5,372.44
Fred Frederick,* Los Angeles, Calif.		2,136.43
D. C. Fitzgerald,* Ardmore		2,543.90
D. C. Fitzgerald, Trust., Ardmore	6,043.05	7,423.62
J. C. Fore,* Wewoka		20,245.47
J. P. Flanagan,* Tulsa	4,170.89	4,551.95
I. P. Flanagan, Tulsa	3,899.38	4,926.60
First National Bank, Chickasha		2,116.24
Eliza Fugate,* Oolagah		2,791.30
Mary Faskin,* Shawnee		4,637.34
Rosa Franks,* Seminole		6,719.31
W. H. Franks,* Seminole		20,549.33
J. T. Fennell,* Pauls Valley		3,209.55
Flynn Oil Co., Oklahoma City	4,470.57	5,818.23
H. B. Folk,* Sand Springs	3,439.17	4,846.88
E. E. Fenner,* Alfred, N. Y.		3,010.30
D. W. Franchot & Co., Tulsa	37,299.98	46,654.87
C. W. Falkenburg,* Wewoka		3,363.14
G		
M. E. Gaskill, Tulsa	26,559.58	35,558.39
Galer Oil Co.,* Tulsa		15,955.75
Gilcrease Oil Co., Tulsa	58,848.65	†94,093.88
Goldelline Oil Corp., Okla. City	12,379.76	15,504.49
Gilmer Oil Co., Ardmore	60,255.49	†70,558.68
R. F. Garland & Co.,* Tulsa	28,786.17	40,084.35
Gilliland Oil Co., Tulsa	5,381.66	7,242.97
Gilliland Oil Co., Tulsa	22,053.23	†30,624.94
Gilliland Oil Co.,* Tulsa	1,890.94	2,760.98
J. Wood Glass,* Nowata	4,721.03	5,787.71
Galvez Oil Co., Tulsa	5,349.73	†10,889.09
Gates Oil Co., Ardmore	9,724.11	11,006.97
F. A. Gillespie & Sons, Tulsa	24,781.58	28,667.77
Gillespie & Grimes, Tulsa	14,280.52	19,432.66
Gypsy Oil Co., Tulsa	2,894,607.51	3,906,318.26
Gypsy Oil Co., Tulsa	.....	†137,918.12
Gypsy Oil Co., Tulsa	2,095.43	2,565.38
Gypsy Oil Co., Tulsa	.....	†21,851.56
Gypsy Oil Co., Tulsa	243,615.53	322,227.88
Gypsy Oil Co.,* (suspense), Tulsa		25,473.79
W. A. Graham Estate,* Clarion, Pa.		3,308.02
Gardner Pet. Co., Tulsa	21,232.07	30,277.77
Guaranty Trust Co.,* N. Y. City		9,941.12
V. L. Goltry, Trustee,* Enid		2,908.49
Glidden Oil Corp., Tulsa	11,106.03	14,026.57
Annie Gobogan,* Wewoka		11,276.94
Jas. H. Graham, Tulsa	6,811.11	9,126.87
Ethel Glenny,* Blackwell		2,593.07
Geo. M. Green, trustee,* Okla. City		2,441.60
F. H. Greer, trustee,* Tulsa		2,653.25
F. H. Greer, trustee,* Tulsa		2,243.04
L. L. Greer,* Tulsa		2,128.35
Myrtle Green et al,* Oklahoma City		9,209.30
F. H. Greer,* Tulsa		2,254.04
Ola Goodson, Blackwell		7,926.48
W. E. Grisso,* Seminole		69,808.30
W. D. Grisso,* Seminole		2,299.53
W. E. Grisso,* Tulsa		3,021.93
W. E. Grisso,* Tulsa		4,539.23
W. E. Grisso,* Seminole		3,047.90
Gorton Trust Company, Cement	9,726.62	12,066.36
R. W. Getzendoner, Waxahachie, Texas		13,653.94
C. O. Gregg, Ardmore	5,098.51	†6,385.92
Gladys Bell Oil Co., Tulsa	16,006.41	†24,421.27
Gladys Bell Oil Company, Tusa	13,259.96	†18,969.09
H		
Bert Harris,* Maud		4,703.21
E. L. Harris,* trustee, Wewoka		13,152.59
E. L. Harris, trustee,* Wewoka		5,232.93
Healdton Oil & Gas Co.,* Enid	2,959.81	4,213.91
Healdton Oil & Gas Co., Enid	19,645.81	30,327.13
W. T. Hales, Oklahoma City	59.874.76	†72,041.21
W. T. Hales,* Oklahoma City	1,106.15	†1,560.15
Hale Ford Oil & Gas Co., Muskogee	6,034.09	9,038.02
J. W. Henry, Tulsa	7,630.06	11,460.61
Henry Oil Co., Tulsa	9,267.52	11,974.42
Highway Oil Ref. Corp., Tulsa	35,025.09	49,041.29
Harland Oil Co., Walco	16,751.58	†20,889.54
Hargrove Hudson,* Tulsa		25,613.40
Homestake Oil & Gas Co.,* Tulsa		185,323.28
Home Stake Oil & Gas Co.,* Tulsa		16,670.15

Name, Address—	Barrels	Amount
Home Gas Co. of Cushing, Cushing	4,974.04	†18,780.20
Homaokla Oil Co., Oklahoma City	124,936.25	165,471.00
Homaokla Oil Co.,* Oklahoma City	11,289.61	13,773.14
Harris & Haun, Blackwell		32,233.03
Houston Oil Co. of Texas, Houston, Texas	14,374.97	†20,895.85
Humble Oil & Ref. Co., Houston, Texas	290,431.55	330,257.08
Humble Oil & Ref. Co., Houston, Texas		†8,060.71
J. L. Hull,* Seminole		2,302.64
J. A. Hull, Tulsa	72,775.98	104,046.24
E. L. Halsell,* Muskogee		2,438.07
Halsell & Son Oil & Gas Co., Vinita	5,141.19	†7,181.88
Ewing Halsell,* Vinita		2,961.12
R. T. Harber,* Seminole		2,863.29
Claud Harber,* Seminole		3,023.09
W. E. Harber,* Seminole		15,279.81
J. N. Harber,* Seminole		10,180.12
Mary Harber,* Seminole		8,943.74
A. Harber,* Seminole		4,069.01
Harmon Glass & Robertson, Nowata	484.74	556.20
Harmon & Reed, Nowata	5,546.60	6,913.41
Harmon & Glass, Nowata	10,522.72	13,222.82
Harmon & Robertson, Nowata		816.26
C. C. Harmon,* Nowata	1,455.08	1,799.69
C. C. Harmon, Nowata	4,329.68	†4,746.11
S. B. Hammons,* Seminole		7,635.09
U. C. Homesley,* Earlsboro		4,851.94
Wm. L. Hughes,* Sapulpa		2,343.41
Thos. J. Horsley,* Wewoka		2,862.47
Hornecker & Hagler, Tulsa	4,094.35	5,894.30
Mollie E. Howell,* Wellington, Kan.		4,007.08
J. E. Hall,* Sasokwa		8,641.10
Hambro Oil C., St. Louis, Mo.	4,759.63	5,836.99
P. J. Hill,* Shawnee		11,439.29
The Hefner Co.,* Oklahoma City		4,649.98
Max Hesslein,* New York City		5,629.99
Henderson Oil Co., Marietta, Ohio	6,103.49	7,148.68
Harry Hanburg, Duncan		9,572.99
Hickman & Heydrick, Wichita Falls		5,923.66
J. C. Hartley, Agt.,* Gotebo		6,502.38
A. N. Hopkins,* Davenport		3,233.22
Marie Henton Oil Co., Lima, Ohio		†7,280.56
G. W. Hicks,* Cox City		2,243.76
H. Z. Ward,* Heavener		4,423.01
O. R. Howard, Tulsa	7,546.38	7,885.06
Hewett Mineral Corp., Ardmore	5,031.54	6,812.75
E. P. Harwell, Tulsa		6,771.82
Elizabeth R. Crockett, Hayes, Okla.	4,749.08	6,482.91
Hayner-Reaves Royalty Co., Tulsa		3,161.54
Marie S. Henry,* New York City		2,791.48
John F. Hayden, Tulsa	6,400.73	8,736.25
John F. Hayden,* Tulsa	1,518.40	1,988.10
Arch H. Hyden,* Tulsa	1,494.62	2,249.96
E. N. Horton,* Ardmore		2,301.09
A. D. Horton, Agt.,* Hawarden, Iowa	6,161.33	7,111.38
N. Hernstadt,* New York City		4,735.17
T. J. Hughes, Cushing		7,582.63
J. H. Hicks,* Shawnee		2,745.62
W. H. Helmerick,* Tulsa		2,158.68
Hemlock Oil Co.,* Tulsa	1,420.69	2,128.31
Carl B. Haun,* Blackwell		3,147.23
I		
Leonard D. Ingram,* Cleveland, Ohio		2,401.74
J. A. Ingram,* Shawnee	2,680.08	3,581.97
J. A. Ingram,* Shawnee		11,983.76
A. B. Ice & L. F. Ice, Culsa		8,884.80
Imo Oil & Gas Co., Covington		14,032.29
Investors Oil Royalty Co.,* Tulsa		90,184.12
Indiana Oil & Gas Co., Tulsa	27,281.23	†38,183.38
Indian Royalty Co.,* Okmulgee		15,998.35
Interocean Oil Co., Tulsa	41,169.92	53,619.10
Independent Oil & Gas Co.,* Tulsa	8,242.86	†11,934.88
Independent Oil & Gas Co., Tulsa	805,514.33	1,140,116.00
Iron Mountain Oil Co., Tulsa	13,983.73	17,359.02
Iron Mountain Oil Co.,* Tulsa		1,656.20
Indian Terr. Illuminating Co., Bartlesville	1,555,767.59	2,540,055.33
Indian Terr. Illuminating Co., Bartlesville	48,970.89	68,592.72
Indian Terr. Illuminating Co. (suspense), Bartlesville	2,344.72	3,151.67
Imperial Royalties Co.,* Kansas City, Mo.	37,540.06	51,212.43
O. M. Ireland, Sapulpa	6,654.54	9,775.93
H. L. Ingram, Earlsboro		4,735.00
J		
L. B. Jackson,* Sapulpa		3,414.49
Jackson & Wise, Sapulpa		9,429.33
L. B. Jackson, Sapulpa		7,148.24
R. G. Jennings, Pittsburgh, Pa.	9,563.38	14,091.06
R. C. Jones & Co., Inc.,* Cushing	10,346.47	†16,499.91
Robt. L. Jones,* Bristow	2,717.89	†4,374.93
J. Edw. Jones,* New York City		6,964.80
Willard Johnston,* Shawnee		9,726.75
B. F. and Mary Eva Johnson,* Fayette, Ark.		2,311.68
E. H. Jennings Bros. Co., Pittsburgh, Pa.	3,546.43	4,583.57
Mable D. Jarrett,* Chandler	2,963.12	4,175.97
Annie E. James,* Seminole		2,330.85
Josey Oil Co., Tulsa	156,154.50	†236,718.68
John B. Jameson,* Concorn, N. H.	1,420.12	2,003.32
Junction Oil & Gas Co., Newkirk	5,290.65	7,512.95
Jarvis & Holine, Inc., Tulsa	20,120.56	37,226.18
Jarvis, Zollinger & Andrews,* Shawnee		17,322.52
K		
A. D. Kennedy,* Okmulgee		4,712.56
Kay & Kiowa Oil Co., Tulsa	7,474.80	10,551.03
Kay Oil Co., Blackwell	24,954.50	35,856.21
Kewanee Oil & Gas Co., Titusville, Pa.	519,633.00	†764,282.33
J. T. King, Okmulgee	5,278.51	7,428.71
Helen Walker King,* Orange, Cal.		6,460.52
Helen Walker King,* Orange, Cal.		21,437.31
Kirk Oil Co., Ardmore	6,730.07	†8,288.57
Kingwood Oil Co., Okmulgee	113,337.13	†159,900.19
Chas. E. Knox, Enid	5,333.27	†9,224.43
R. R. Kisner,* Enid		3,183.48
Minnie L. Kisner,* Enid		3,176.63
Kisner Royalty Co.,* Garber		3,422.70
C. C. Kimble,* Beggs		6,932.41
J. D. Kimmel,* Tulsa		3,013.68
L. & Stella Keck,* Nacona, Texas		3,543.98
Mark Kanner,* New York City		26,687.43
Nettie Klein,* New York City		25,871.25
Frank Knappenberger,* Seminole		3,779.26
A. A. Kaup,* Edmond		2,006.78
W. O. Kays,* Shawnee		6,774.91
Robt. S. Kearney,* New York City		4,354.05
S. P. Kennedy,* Bradford, Pa.	1,662.03	2,126.14
Emma B. Kennedy, trustee,* Okemah		7,233.37
Albert Kelly,* Bristow		2,507.17
Keyokla Oil Co.,' Oklahoma City		6,949.68
L. R. Kershaw,* Muskogee		2,351.76
Kreola Oil Co., Ardmore	11,837.56	6,949.68
Kreola-Colcord & Commerce, Ardmore	9,260.59	9,678.84
Keener Oil Co.,* Tulsa	1,516.24	†2,523.28
Keener Oil & Gas Co.,* Tulsa	42,090.23	†49,923.59
L		
Link Oil Co. Co., Tulsa	21,386.58	28,154.94
Lilami Oil Corp., Oklahoma City		17,932.72
Lewis Production Co., Pittsburgh, Pa.	139,358.56	196,665.11
Louisiana Oil & Ref. Corp., Shreveport, La.	147,831.68	†176,957.17
Lima Oil & Gas Co., Bartlesville	2,554.62	†28,041.84
C. C. Longacre,* Shawnee		8,207.08
Lombard Hart Loan Co.,* Shawnee		2,029.29
R. W. Laughlin,* Wewoka		5,384.08
Florence Lundley,* Sapulpa		†6,459.81
J. D. Lindsay*, Kendrick		6,257.57
Large Oil Co., Bartlesville	4,137.00	5,584.84
W. S. & Amy Livingston,* Seminole		9,956.46
W. S. & Amy Livingston,* Seminole		7,808.31
Lone Star Gas Co., Dallas, Texas	12,175.00	†16,645.00
LeFlore County Gas & Elec. Co., Poteau		†11,596.24
Liberty Royalties Corp.,* Tulsa		12,482.89
Little Nick Oil Co., Chickasha		12,084.90
Little Fay Oil Co., Tulsa	9,999.87	11,196.46
Lasoya Oil Co., Altoona, Pa.	2,732.34	3,225.34
C. H. Lebow,* Tulsa		5,597.06
A. M. Landon, Independence, Kan.		9,600.27
W. T. & Lyles Laughlin,* Oklahoma City		5,045.45
Nancy J. Laughlin,* Cushing		2,821.89
T. E. Laselle, Ada		18,907.93
Park B. Lamberton,* Tulsa	1,407.52	2,175.42
Patty Spence Ludey, Marietta, Ohio	4,156.58	5,059.42
B. D. Lack,* Wewoka		7,308.92
B. D. Lack,* Wewoka		19,772.89
Lawton Corp., Oklahoma City	1,537.88	8,785.46
A. W. Lewis,* Harlan, Iowa	4,088.75	6,002.36
Laurel Oil Co., Tulsa	33,964.46	44,610.43
M		
W. F. McDaniel,* Blackwell		2,896.55
John V. McDonnell, est.		2,255.76
W. W. McDonaugh,* Wewoka		14,146.64
J. M. MacDonough,* New York City		3,876.85
W. F. McMechan,* Tulsa		3,026.10
E. J. McKinney,* Cocper, Texas	1,979.12	2,309.58
H. G. McGee,* Pauls Valley		18,924.30
J. N. McGee,* Tecumseh		3,550.07
Minnie McElroy,* Allen	2,986.55	3,362.74
McRoberts Royalty Co.,* Tulsa		3,728.58
McQueen & Winkler, Oklahoma City	16,980.22	†19,984.28
I. R. McQueen, Oklahoma City	4,320.43	5,974.65
Jerry McCoy,* Ardmore		32,749.98
Jerry McCoy,* Ardmore		2,404.35
Floyd McCaughtry,* Chickasha		2,474.06
H. W. McVey,* Tulsa	1,791.27	2,957.31
McGraw Oil Co., Tulsa	23,225.14	29,131.31
D. A. McDougal,* Sapulpa		2,088.06
Mary B. McAlester,* McAlester		7,199.32
Carrie L. McClure,* McAlester		7,199.32
McMan Oil & Gas Co., Tulsa	56,623.46	74,963.75
C. L. McMahon, Tulsa	5,278.49	7,428.71
McMahan Royalties Co.,* San Antnnio, Texas	2,406.08	†3,338.03
W. C. McBride, Inc.,* St. Louis, Mo.		6,101.71
C. L. McMahan, Inc. & C. L. McMahan, Tulsa	29,090.02	50,126.11
C. L. McMahan, Inc.,* Tulsa		16,594.48
Malernee Oil Co., Oklahoma City	7,872.04	10,895.32
D. B. Mason, Tulsa	13,594.24	15,326.72
Marilan Oil & Gas Co., Blackwell	9,416.55	13,167.39
Marland Employes Royalty Co.,* Ponca	11,998.47	17,294.25

Name, Address—	Barrels	Amount
Jennie Mullendore, Cleveland		14,220.88
E. M. Mullendore, Cleveland		26,120.21
E. M. Mullendore,* Cleveland		3,548.52
Sarah J. Mahoney,* Tonkawa		2,148.89
Murphy Oil Co. of Penn., Philadelphia, Pa.	4,893.54	5,859.49
Annie Myer,* Sapulpa		4,126.79
Alice Clark Myers,* Santa Fe, N. M.		4,843.25
Dudley D. Morgan,* Tulsa		2,062.41
Dudley D. Morgan, Tulsa		8,072.77
E. R. Minshall, Tulsa	4,317.05	†5,729.29
Marland Production Co., Ponca	467,361.89	665,644.82
Marland Production Co., Ponca		†57,307.74
Magnolia Petroleum Co., Dallas	3,500,576.95	4,392,816.92
Magnolia Petroleum Co., Dallas		†154,419.98
Magnolia Petroleum Co.,* Dallas	58,182.56	79,897.34
Magnolia Petroleum Co.,* Dallas	72,013.60	97,014.71
Magnolia Petroleum Co.,* Dallas		†3,646.63
Magnolia Petroleum Co.,* (suspense)	6,945.27	9,947.02
Magnolia Petroleum Co., Protest	2,776.41	4,168.44
Magnolia Petroleum Co., Protest	48,616.87	69,839.23
Magnolia Petroleum Co., for J. A. Ingram	1,617.98	2,165.74
Magnolia Petroleum Co., for J. A. Ingram*	17,566.75	23,513.84
Magnolia Petroleum Co., for Lucie Sullivan*	2,095.38	2,717.73
Margay Oil Corp., Tulsa	81,543.32	110,097.42
Minnehoma Oil & Gas Co., Tulsa	99,099.09	†153,119.24
Mul-Berry Oil Co., Cushing	26,709.09	†54,056.92
Mid-Kans. Oil and Gas Co.,* Findlay, Ohio.		1,689.71
Mid-Kans. Oil and Gas Co., Findlay, Ohio	148,799.33	†204,375.45
Mid-Cont. Petr. Corp., Tulsa	1,436,212.42	1,791,022.97
Mid-Cont. Petr. Corp., Tulsa		†85,274.41
Mid-Cont. Petr. Corp.,* Tulsa	7,959.83	8,400.04
Mid-Cont. Petr. Corp., Tulsa	6,942.54	9,133.25
Midco Oil Corp., Tulsa	16,015.34	21,307.44
Midland Petr. Corp.,* Wewoka		2,249.59
Clint Moore Estate, Tulsa	13,609.73	18,326.48
Geo. M. Mayhue,* Ada		3,859.47
B. F. Melton,* Duncan		5,971.86
Tiger Miller,* Eufaula		187,646.07
Miller Bros. 101 Ranch,* Ponca		9,475.09
R. J. Metcalf,* Fort Worth, Texas		2,540.14
J. H. Maxey,* Oklahoma City		2,191.35
Jonas B. Milner,* Allen	5,026.86	5,763.48
E. B. Martindale,* Muskogee	1,495.06	2,051.42
J. L. Martin,* Marlow		3,757.72
J. Read Moore,* Wewoka		6,370.00
M. S. O. Oil Corp., Tulsa	4,596.37	†5,828.84
Sophia S. Mussellem, Muskogee	3,553.14	5,291.89
Madden and Madden, Tulsa	13,100.15	17,065.32
Albert Meier, agt.,* Enid		2,056.31
John Meier,* Winfield, Kans.		2,056.31
E. L. Mayes,* Earlsboro		36,600.16
H. E. Morris,* Ada	2,614.94	3,007.65
Mudge Oil Co., Pittsburgh, Pa.	20,239.96	15,179.97
Million and Thomas,* McAlester	3,983.14	4,753.76
Meridian Gas Co., Dallas, Texas		6,113.76
Frank Meador, Jr.,* Wetumka	1,104.34	2,596.59
Frank Meador, Jr.,* Wetumka		4,074.39
Ward S. Merrick, Ardmore		6,845.98
F. W. Merrick and Coe, trustee, Ardmore	13,521.37	16,309.64
F. W. Merrick, Inc., Ardmore	28,993.53	35,494.28
I. H. Markham, Jr., Tulsa	24,479.65	32,387.73
Robt. W. Martin,* Duncan		2,737.76
Bluford W. Miller,* Okmulgee		8,423.47
N		
New Eng. Oil & Pipe Line Co., Boston, Mass.	118,695.38	142,600.95
R. L. Nelson,* Webb City, Mo.		5,119.26
New Royalty Co.,* Ponca	2,945.06	5,661.93
N. Y. Petr. Royalty Corp., N. Y. City*	40,312.50	55,158.27
Nowata Oil & Refg Co., Nowata		9,403.67
Norwood Oil Co., Tulsa	8,093.31	9,711.16
G. A. Nichols,* Oklahoma City		3,778.11
Natl. Union Oil & Gas, Blackwell		5,368.29
National Oil & Dev. Co., Tulsa	7,899.96	9,211.76
National Refg. Co., Cleveland, Ohio	6,776.40	†11,806.23
F. M. Nelson, N. Y. City	5,166.13	6,280.44
W. C. Norris, Tulsa		13,426.22
Stephen Negahnquit,* Trousdale		14,385.86
Walter Neustadt, Ardmore		5,584.04
Northern Counties Gas Co., Ponca	2,567.92	†15,316.73
R. B. North,* Blackwell		2,927.81
North Central Texas Oil Co., Inc., N. Y. City		6,027.10
W. C. Newman Corp., Okmulgee		12,383.00
A. S. Norvell,* Wewoka		5,804.85
Hattie E. Noble,* Ardmore		3,553.75
Eva Noble,* Ardmore		4,738.35
Errett R. Newby,* Oklahoma City		1,929.09
Nester Oil Co.,* Alex	3,076.00	4,183.24
O		
Ogg Petr. Co., Muskogee	5,231.32	6,844.91
Kitty L. Ogg,* Muskogee	6,266.99	8,689.69
Ona Oil Co., Blackwell	5,784.09	†13,019.53
Robt. Oglesby est., Tulsa	3,284.23	5,312.66
Robt. Oglesby est.,* Tulsa		3,273.00
S. S. Orwig,* Wewoka		19,550.70
J. M. Oneal,* Tecumseh	1,261.03	2,001.71
Osage Dev. Co., Martlesville	4,770.10	5,787.01
Osage Gas Prod. Co., Independence, Kan.	376.81	†52,502.07
Osage Syndicate, Inc., Tulsa	3,904.97	5,075.82
Okla. Royalty Corp.,* Buffalo, N. Y.		10,223.57
D. R. Owens, Chandler		8,586.83
Olean Petr. Co., Bristow		12,203.55
Omega Oil Corp., Inc.,* Shreveport, La.	3,366.81	†4,565.09
O'Rourke Oil Co., Bristow		10,931.17
W. B. Osborn,* Ada		2,663.36
Ohio Fuel Oil Co.,* Charleston W. Va.	38,619.10	51,279.90
Ohio Fuel Oil Co., Charleston, W. Va.		†381.15
Ohio Royalty Co.,* Tulsa		11,117.83
Okla. Power and Water Co., Sand Springs		†16,842.10
Okla. Gas Utilities Co., Chickasha		45,086.59
Okla. Natural Gas Co., Tulsa		†63,876.92
Okla. Royalty Co. of Canada,* Toronto, Can.		45,989.14
Oil State Petr. Co., Enid	7,862.04	12,016.99
Oil State Petr. Co.,* Enid	9,162.46	12,485.10
Okla. Gasoline and Oil Co., Tulsa	8,663.81	11,042.75
Okla. Gasoline and Oil Co., Tulsa	6,280.02	7,801.82
P		
Petr. Producers Co., Wichita Falls	35,940.82	48,455.63
Pioneer Petr. Co., Tulsa	12,964.59	16,207.67
Pawhuska Oil and Gas Co., Pawhuska		†6,370.10
W. I. Pierce,* Ardmore		2,144.76
Pierce Petr. Corp., Sand Springs	32,834.92	40,233.39
Pierce Petr. Corp., Sand Springs		†14,651.17
W. B. Pine and Phillips Petr. Co., Okmulgee	49,522.06	69,779.76
W. B. Pine, Okmulgee	57,965.70	†82,543.02
Producers Oil Co., Tulsa	51,080.88	†79,378.16
Prod. & Refiners Corp., Independence, Kan.	98,267.00	85,319.57
Prod. & Refiners Corp., Independence, Kan.		†9,006.81
Pure Oil Co., Chicago, Ill.	1,730,046.67	2,361,290.44
Papoose Oil Co., Tulsa	5,035.20	†8,174.83
Papoose Oil Co., Tulsa	17,751.99	†26,014.33
Paragon Oil Co., Tulsa	5,820.75	†8,405.86
Rosa W. Phillips, Davis		6,048.39
Waite Phillips,* Tulsa	2,679.92	3,908.93
W. G. Phillips and J. B. Milam, Chelsea	25,472.14	30,633.42
Phillips Petr. Co., Bartlesville	712,864.32	933,066.45
Phillips Petr. Co., Bartlesville		†78,513.99
Peters Petroleum Corp., Tulsa		143,909.24
Petroleum Co., Tulsa	4,102.09	†5,432.22
Petroleum Co. & M. H. Mosier, Tulsa	10,828.97	†14,130.85
Petroleum Rights Corp.,* N. Y. City		9,928.71
Petroleum Royalties Co.,* Tulsa		121,552.55
Provident Royalty Corp.,* Tulsa		2,708.16
Provident Royalty Corp.,* Tulsa	19,286.21	26,808.06
Prairie Oil and Gas Co., Ind., Kans.	2,887,242.90	3,896,364.00
Prairie Oil and Gas Co., Ind., Kans.		†36,096.28
Prairie Oil and Gas Co., Trustee, Ind., Kans.	3,910.49	4,819.21
Paraffine Oil Co., Houston, Texas	8,765.84	10,522.84
Plymouth Petr. Co., Tulsa	9,535.57	12,473.05
Peerless Oil Prod. Co., Tulsa	18,246.21	27,605.70
Peerless Oil and Gas Co.,* Indiana, Pa.	13,215.40	18,949.91
Pauline Oil and Gas Co., Okla. City	9,253.61	12,159.30
Carr Peterson, Haskell		6,705.12
O. J. Pharoah,* Henryetta		9,741.32
Plover Drilling Co., Tulsa	4,161.51	5,512.81
N. J. Price,* Okemah		4,297.96
Chas. Page, trustee, Tulsa	3,592.73	5,059.42
Clyde G. Pittman,* Tecumseh		2,059.83
Pawnee Oil Prod. Co., Tulsa		5,876.22
J. A. Patterson,* Wewoka		6,153.93
W. D. Priddy,* Norman		2,289.30
Perpetual Royalties Income Co.,* Rock Island, Ill.	1,267.05	2,237.33
S. T. Palmer,* Okemah		7,407.12
J. E. Perkins,* K. C., Mo.		2,071.38
Privett Drilling Co., Maramec	2,696.76	8,461.21
Wm. A. & Dora Patterson,* Allen		2,156.40
Plains-Petr. Co., Inc., Tulsa	17,766.72	†24,173.86
M. W. Pugh, Marlow	6,451.60	7,868.34
Pennok Oil Corp., Tulsa	29,019.68	41,044.28
Lillie M. Priboth,* Blackwell	2,237.03	3,324.18
F. F. Priboth,* Blackwell	2,201.16	3,274.55
Perkins & Cullum, Wichita Falls	7,429.73	9,233.58
Q		
Quinton Relief Oil and Gas, Quinton		9,543.97
R. C. Quiett,* Seminole		2,270.06
John Quimby,* Montebello, Calif.		6,896.13
Quail Oil & Gas Co., Okla. City	1,894.91	2,602.44
R		
Roxana Pet. Corp., St. Louis, Mo.	1,196,685.88	1,607,770.39
Roxana Pet. Corp., St. Louis, Mo.		†75,752.93
Reliance Oil Co., Houston, Texas	3,639.54	4,463.21
Reliance Oil Co., Houston, Texas	4,870.94	8,306.33
Ryan Consolidated Pet. Corp., Bartlesville	7,124.33	9,522.22
Regal Oil and Gas Co., Tulsa	6,862.27	†8,992.76
Rena Royalty Co.* Tulsa	8,044.83	11,939.90
C. E. Roth, Independence, Kansas	4,668.21	5,836.56
B. B. Ralph,* Kansas City, Mo.		5,830.86
Dock Ramsey,* Ripley		8,084.64
W. R. Ramsey and W. E. Ramsey, Okla. City		98,418.82
Reiter-Foster Oil Corp., Tulsa	10,997.51	15,012.62
Reiter-Foster Oil Corp., Tulsa	16,979.42	22,546.74
W. E. Reardon, Santa Monica, Calif.	5,414.89	6,708.80
Leslie Rogers,* Tulsa	5,496.98	†7,961.04
U. T. Rexroat, Gdn.,* Ardmore		6,023.07
Dora C. Russell,* Duncan		2,619.49

Name, Address—	Barrels	Amount
C. L. Richards,* Tulsa	5,118.46	†5,393.87
Joe Ray, Chickasha		11,553.78
Joe Ray,* Chickasha		5,896.38
Ray Oil Co.,* Alex	2,872.83	3,562.15
W. S. Randall, Okla. City		7,127.04
Red Bank Oil Co., Tulsa	9,020.31	†11,982.91
Mable Ringling,* Ardmore	2,644.32	2,187.63
L. D. Rickey,* Ardmore	1,953.71	2,292.98
Richard J. Roberts,* Wewoka		2,012.35
Geo. Ross,* Marshall		4,476.24
Jamie Replogle,* Okla. City		6,389.58
D. Replogle, Okla. City	24	6,517.20
Thos. Ryan,* Flanagan, Ill.		7,120.65
Royalty Corp. of America, Tulsa	37,349.13	52,835.59
Replogle and Johnston,* Okla. City		5,402.17
H. T. Riddle,* Seminole		2,485.88
Riverland Co.,* Tulsa	2,924.15	3,857.32
Riverland Co., Tulsa	19,109.79	†25,990.48
Riverside Oil & Ref. Co., Tulsa	23,369.18	32,387.47
J. A. Rockwell,* Warren, Pa.		5,927.77
Rockland Oil Co., Ardmore	29,729.59	31,286.45
Royalty Investment Co.,* N. Y. City		5,930.84
Nellie Reed & B. H. Robertson,* Nowata		2,860.58
Fred Read, Abilene, Texas		5,862.66
Isabella S. Reed,* Neosho, Mo.	22,319.36	31,436.14
Frank H. Reed,* Neosho, Mo.	3,244.22	3,956.68
Frank H. Reed,* Neosho, Mo.	53,546.90	77,625.30
C. E. Reynolds Drilling Co., Okmulgee	7,817.81	10,881.56
Reynolds Oil and Royalty Co., Okmulgee	7,683.28	10,689.51
E. L. Robinson, Tulsa	4,122.45	5,402.78
E. L. Robinson, Tulsa	8,780.31	11,431.43
E. L. Robinson, Gibson, Zahnisner Oil Corp., Tulsa	7,617.55	†10,286.53
S		
Sun Royalty Co.,*	17,350.88	23,842.07
Sunrise Oil Corp.,* Okla. City		5,134.77
Shaffer Oil & Ref. Co.,	312,089.73	462,988.69
Savoy Oil Co,, Tulsa	11,926.37	†14,428.40
Snowden and McSweeney Co., New York City	96,016.71	†128,475.66
Southwest Prod. Co., Bristow		†16,584.52
H. F. Sinclair,* N. Y. City		10,164.89
Sinclair Oil and Gas, Tulsa	2,411,634.54	3,355,751.70
Sinclair Oil and Gas, Tulsa		†137,544.16
Skelly Oil Co., Tulsa		†1,997.75
Skelly Oil Co., Tulsa	2,837.86	3,856.42
Skelly Oil Co., Tulsa	552,720.25	697,521.85
Skelly Oil Co., Tulsa		†33,484.05
Clyde and W. D. Seay,* Oscar	1,898.00	2,380.98
O. W. Seay.* Ryan		11,119.26
Herbert S. Schroeder,* Los Angeles, Cal.		2,089.66
Snodgrass Oil Co., Frederick		14,081.49
Selby Oil and Gas Co.,* Tulsa	2,191.80	2,975.63
Selby Oil and Gas Co., Tulsa	33,871.52	38,782.95
Shaffer Oil and Ref. Co., Tulsa		20,875.79
C. B. Shaffer, Chicago, Ill.	56,230.10	65,476.12
C. B. Shaffer, Chicago, Ill.	6,981.55	8,084.11
Scheimerhorn Oil Co., Tulsa	4,334.57	†21,193.50
Schermerhorn, J. B., Inc., Minneapolis	74,225.91	90,342.57
Schermerhorn-Young Co., Minneapolis, Minn.	1,788.56	2,694.09
Schermerhorn Ardmore Co., Minneapolis,	156,751.24	†169,194.53
Sheridan Oil Co., Trustee, Tulsa	16,555.36	†22,869.66
Morris Schonwald,* Okla. City		3,744.78
Dave Schonwald,* Blackwell		3,563.64
C. H. Schoenfeld,* Cleveland	1,801.04	2,405.81
Tom Slick, Okla. City	424,885.45	†622,140.12
Tom Slick, Okla. City	13,243.48	†18,227.66
T. B. Slick,* Clarion, Penn.	21,972.57	†33,298.63
T. B. Slick, Clarion, Penn.	266,341.31	†400,184.28
Superior Oil Corp., Tulsa	154,394.63	223,680.44
Sidwell Drilling Co., Sapulpa	3,986.97	5,268.67
John H. Standridge,* Lexington		6,788.34
E. D. Slough, Ardmore		2,908.77
Earl Spring, Ryan	4,697.57	5,668.40
H. E. Schmidt,* Columbus, Ohio	9,289.81	13,806.35
Alice and T. J. Spencer, Wewoka		6,210.82
Estate L. S. Skelton, Okmulgee	1,656.64	5,495.19
Sturm Drilling Co., Ardmore	17,629.86	21,912.83
Ira Shrimp,* Blackwell		4,071.86
Harriett W. Sparks,* Earlsboro		5,768.79
H. J. Spaugy,* Trousdale		6,656.64
Mary Severs Owen,* Muskogee		2,668.28
Chas. A. Snyder,* Sapulpa		2,007.77
J. L. Stacy, Chickasha		2,477.68
O. W. Seay,* Ryan		11,811.95
M. R. Stone, trustee, Hawarden, Iowa	2,760.60	2,628.33
Skelton-Moore Oil Co., Bartlesville	5,439.62	6,754.07
W. J. Shields,* Ft. Worth, Texas		12,108.12
Sampson Oil Co., Okmulgee		6,118.56
Lucy B. Scott,* Holdenville		2,486.77
Silurian Oil Co., St. Louis	102,419.55	133,798.27
Silurian Oil Co., St. Louis		†4,838.31
A. O. Simpson,* Ardmore	2,321.02	3,225.12
W. E. Simpson,* St. Louis, Mo.	2,321.02	3,225.12
Harriett W. Sparks,* Earlsboro	5,986.97	8,187.97
Simpson Fell Oil Co., Ardmore	41,779.05	†48,340.93
Sapulpa Refg. Co., Denver, Colo.	6,744.59	†9,389.33
L. O. Sparks, Admr.,* Okla. City	19,480.29	26,301.94
L. G. Stanley, Pawhuska		10,312.23
Robt. C. Sharp, Tulsa	7,077.67	9,604.59
Robt. C. Sharp,* Tulsa	867.56	1,231.12
Sneed Royalty Co.,* Tulsa	14,575.53	20,378.77
W. C. Stout,* Ponca		2,040.29
Dr. N. Sulzberger,* N. Y. City		3,909.32
James A. Swindler, Muskogee	6,569.74	8,161.23
Sarasota Oil Co.,* Ardmore	3,854.94	4,051.87
Gracie I. Shirley,* Tulsa		2,209.02
Arlie E. Strough,* Davenport		2,929.56
Simms Oil Co., Dallas, Texas	16,928.63	22,567.87
B. E. Sharum, trustee,* Ripley		5,710.67
J. K. D. Shaffer,* Okla. City	2,194.78	†3,279.13
N. Bert Smith,* Okla. City		4,769.78
L. O. Shannon,* Stillwater		3,195.34
Sterling Oil and Gas Co., Abilene, Texas		15,393.78
C. E. Sykes,* Ardmore		3,191.58
Amanda Schumacher,* Orange, Calif.		2,050.23
J. R. Simpson, Exec., Tulsa		16,539.75
Steve Smith,* Blackwell		2,593.07
Earl Smith,* Blackwell		2,593.07
Mrs. Leona Smith,* Blackwell		2,593.07
Paul Schroeder,* Enid		2,056.31
Henry Schroeder,* Enid		2,056.31
Oscar Schroeder,* Enid		2,056.31
M. H. Schroeder,* Enid		2,056.31
Caroline Schroeder,* Cherokee		2,056.31
O. B. Smith,* Chickasha		2,964.02
Wills H. Smith, trustee, Ardmore	28,184.79	†36,261.09
G. J. Smith, Tulsa		13,756.60
G. J. Smith,* Tulsa		7,700.98
Vivian O. Smith, Okla. City.	6,791.61	6,479.19
M. L. Smith,* Konawa		3,742.03
Jas. M. Seay,* Earlsboro		19,377.83
Mrs. Geo. M. Summers,* Tonkawa		2,534.86
D. S. Sparks,* Ardmore		2,046.52
Katie Snell,* nee Brown, Dustin		2,947.57
T		
Tu man Oil Co., Tulsa	4,461.85	†5,618.21
Dewey Y. Tyler,* Ardmore		7,896.61
S. F. Thompson,* Okemah		3,569.60
M. E. Templeton,* Phoenix, Ariz.		27,909.74
Vida M. Tull,* Yale		11,120.98
A. M. Thomas,* Tonkawa		2,868.74
Martha Nadine Tully,* nee Andrews, M'sk'gee		3,256.44
David P. Thornton,* Muskogee		2,421.55
Transcontinental Oil Co., Tulsa	117,262.24	†157,611.05
Thompson Oil and Gas Co., Tulsa	4,121.76	†5,403.21
Thurman Oil Co., Tulsa	100,091.75	†147,864.57

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Name, Address—	Barrels	Amount
Twin State Oil Co.,* Tulsa	18,166.15	24,773.50
Twin State Oil Co.,* Tulsa	555,386.79	581,325.07
Thlocco Oil Co., Tulsa	10,696.08	15,362.88
Texas Pac. Coal & Oil Co., Thurber, Texas	53,789.45	†51,587.68
Texas Company Prod. Dept., Tulsa	1,607,629.25	2,099,643.12
Texas Company Prod. Dept., Tulsa		73,527.86
Texas Company Prod. Dept.,* Tulsa	11,663.82	17,989.31
Blanche E. S. Tams,* New York City		2,121.08
A. H. Taylor,* Shawnee		5,309.16
H. H. Taylor, Tulsa		42,992.79
Dr. Jos. C. Taylor,* N. Y. City		6,470.68
Tidal Oil Co.,* Tulsa	15,183.01	18,849.65
Tidal Oil Co., Tulsa		28,413.74
Tidal Oil Co., Tulsa	626,696.56	795,032.69
Partners of Tidal Oil Co., Tulsa	7,377.52	8,529.20
Tidal Osage Oil Co., Tulsa		11,673.12
Tidal Osage Oil Co., Tulsa	465,456.39	628,290.45
U		
United Eight Oil Trust, Madill	16,851.21	22,650.41
Union Oil and Mining Co., Tulsa	3,871.32	5,303.08
J. B. Umpleby,* Okla. City		2,101.90
U. S. Royalty Corp.,* N. Y. City		2,162.31
Floyd S. Urschel, Okla. City	4,311.89	†6,565.11
C. F. Urschel, Okla. City	4,311.89	†6,565.11
W. L. Umburn, Weleetka		14,767.76
W. F. and Eliza Varnum,* Shawnee		10,306.52
Leon G. Vorhees,* Okla. City		33,544.59
V		
S. E. Vance,* Tulsa	3,061.27	4,749.67
Valley Osage Oil Co., Tulsa	19,624.92	23,241.29
Vernon Oil and Gas, Blackwell	7,814.26	12,957.18
P. E. Voyles, Pawhuska		10,312.23
Sam K. Viersen,* Okmulgee	8,105.02	11,121.69
Viersen Oil and Gas Co.,* Okmulgee	7,205.79	10,237.65
W		
Wentz Oil Corp., Ponca	586.78	886.88
L. H. Wentz, Ponca	157,985.33	†231,714.20
White Eagle Oil & Ref. Co., Wichita, Kan.	111,748.88	†157,854.11
Washington Royalties Co.,* Bartlesville	5,566.16	7,829.02
Phil A. Watson, Admr.,* Shawnee		6,561.33
Washoma Petr. Corp., Enid		†6,290.05
Ward Oil and Gas Co., Tulsa	7,482.34	9,383.26
S. A. Wallace, Croakston, Minn.		8,071.63
E. A. Walker,* Okla. City		60,367.51
C. C. Walker & Jessie Walker,* Okemah		5,460.32
Benton Wilson,* Greenfield, Mo.		4,658.30
Wolverine Petr. Corp., St. Louis	195,925.65	238,766.79
Wolverine Petr. Corp., St. Louis		†14,642.36
J. H. Wright est., Sapulpa	18,070.51	24,622.14
James Wright,* Bristow		6,094.36
Archie K. Wright,* Muskogee		3,300.96
Archie K. Wright,* Muskogee		3,623.61
Westheimer and Daube, Ardmore		†8,594.17
Westheimer and Daube,* Ardmore		†3,043.09
Westheimer and Daube, Ardmore	206,670.21	†273,400.78
Westheimer and Daube,* Ardmore	25,428.27	32,903.88
Wilson Petr. Corp., Tulsa	6,692.03	5,792.84
Wrightman Petr. Co.,* Tulsa	2,166.58	2,403.25
Wiser Oil Co., Sistersville, W. Va.	91,362.36	109,550.58
Westland Oil Corp., Tulsa	28,550.12	†38,653.82
Wittmer Oil and Gas Prop., Pittsburgh, Pa.	6,719.94	†9,643.06
W. S. Wilcox,* Garber		2,825.47
H. F. Wilcox Oil and Gas, Tulsa	328,339.67	426,606.64
H. F. Wilcox Oil and Gas,* Tulsa		1,856.00
Wm. L. and Lula E. Wallace,* Shawnee		3,566.86
J. W. Watkins,* Sulphur		3,606.42
Jessie May Wilson,* Shawnee		3,797.88
Flossie E. Wilcox,* Melrose Park		3,997.88
Western Royalty Co.,* Tulsa	1,536.90	2,292.77
Mrs. Sallie Eason Watson,* Durant		5,807.20
Warner Caldwell Oil Co., Titusville, Pa.	25,728.03	30,941.19
Agnes V. Woodworth,* Guthrie		3,095.58
W. W. Woodworth,* Ringling		2,506.58
E. P. Work,* Wewoka		38,222.16
W. K. Work,* Wewoka		38,222.16
Wood Oil Co., Tulsa		12,244.00
Westervelt and Noble Oil & Gas, Okla. City		7,425.71
E. E. Westervelt,* Okla. City		3,290.27
Wellsville Oil Co., Wellsville, N. Y.	9,182.11	11,256.70
Western States Royalty Co.,* Great Falls, Mt.		2,843.99
Whitehill Oil Corp., Tulsa	7,296.94	9,023.78
Whitehill Oil Corp.,* Tulsa	1,501.53	2,287.12
Whitehill Oil Corp., Tulsa	5,795.46	7,240.76
John W. Willmott,* San Diego, Calif.		34,719.60
Walsh Oil Co., Tulsa	6,174.85	7,519.52
Westerly Oil Co., Bartlesville	4,055.75	†5,502.18
W. E. Woods,* Cox City		5,737.62
Ruth Welsh,* Blackwell		2,831.16
J. L. Welsh,* Blackwell		3,008.97
L. W. Wilson,* Okmulgee		2,558.84
Winona Oil Co., Tulsa	42,506.05	61,977.97
E. W. Whitney,* Wewoka		57,592.06
Morris Weil,* N. Y. City		3,617.86
J. E. Wallace, Okmulgee		9,346.45
Roy Wood,* Okla. City		9,810.06
Y		
L. W. Young,* Wewoka		2,162.34
J. Wright Young,* Broken Arrow		2,069.24
Z		
Zola Oil Co., Tulsa	15,824.63	18,261.63
L. W. Zimmerman, Chicago, Ill.		23,897.81

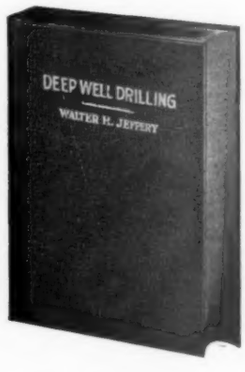
Second Revised Edition

Deep Well Drilling

By WALTER H. JEFFERY

Completely Revised and Brought Down to Date

One Hundred and Thirty-One Pages New Matter Added



A comprehensive handbook covering in detail modern practices of well drilling by the standard or cable tool and the hydraulic rotary system

During the few years that have elapsed since the publication of the first edition of "DEEP WELL DRILLING" there have been so many improvements in well drilling methods and equipment that it was found necessary to practically rewrite the book for this second edition. This book furnishes complete information on drilling and the use of tools and equipment necessary to complete wells efficiently.

This book is a reference work for the engineer and the student and a handbook for the practical driller. Written by a man who has familiarized himself with his subject through a lifetime association with it. 662 pages, illustrated, flexible binding. Price Postpaid $6.00.

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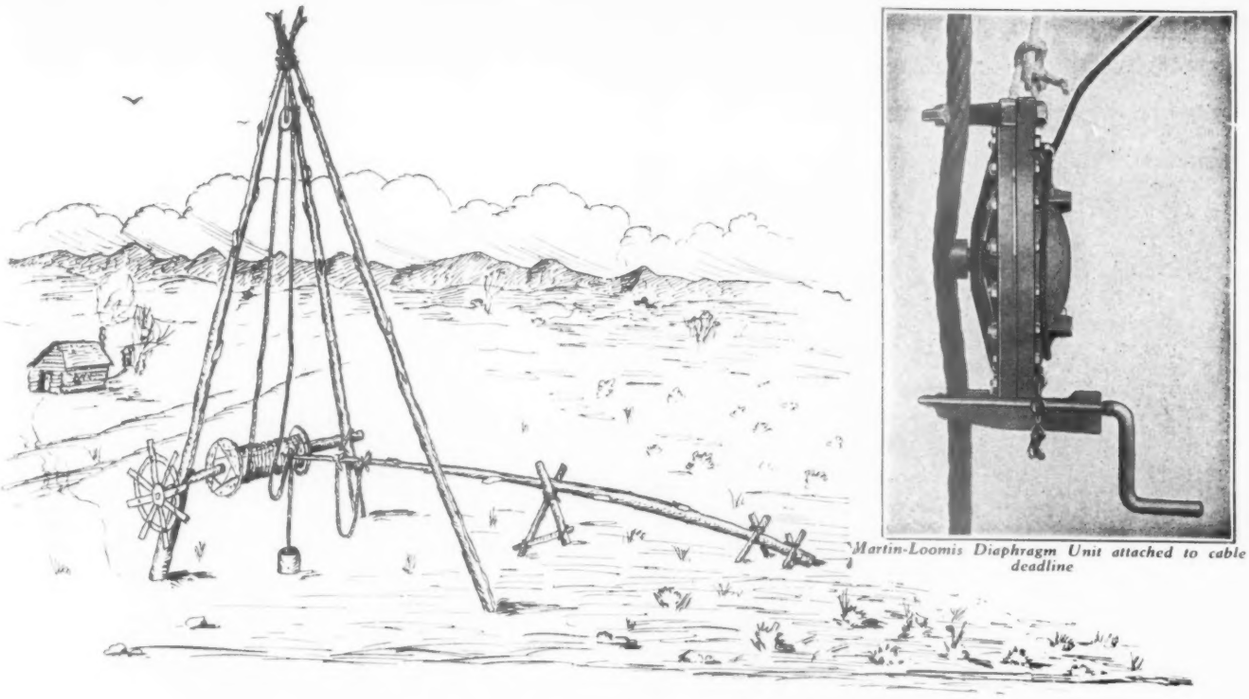
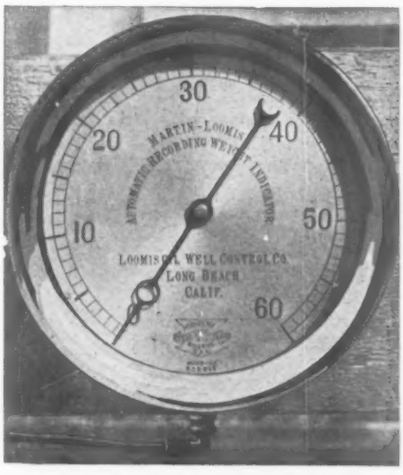


Martin-Loomis Diaphragm Unit attached to cable deadline

The Old *Hemlock* Engine

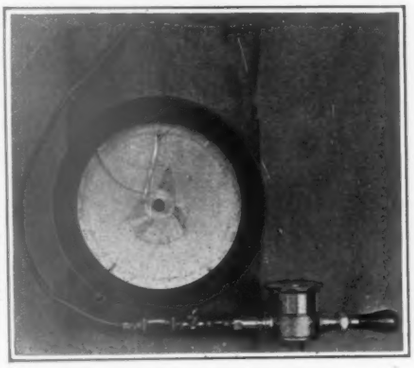
BACK in the days of '62, when drilling wells was not a complex proposition, all that a man needed to put down a "bore" was a lithe hemlock sapling and a strong right leg. And that's when Jim Martin, father of the inventor of the Martin-Loomis Weight Indicator, started drilling wells in Oil Creek, Pa. at the handsome salary of $1.25 per ten hour day.



Weight Indicating Gauge mounted on derrick girt constantly in view of driller

A lot of water has flowed under the bridge since Jim Martin's time but the rich experience of that hardy pioneer of the oil business has been handed down through two generations that have maintained a lifelong contact with the petroleum industry. This, then is the lineage of the most important development in oil field practice since the introduction of the rotary—namely the Martin-Loomis Automatic Recording Weight Indicator.

This hookup, the pioneer in the fields, eliminates the uncertainty of drilling by the "feel of the brake." It gives the driller an accurate indication at all times of the weight on the bottom or the weight on the hook. During the work of coring, fishing, or making hole, the Martin-Loomis Weight Indicator is always on the job guiding the driller and increasing the efficiency of all operations. Martin-Loomis equipment is now in use in oil fields all over the world. Its installation is the logical step of every practical progressive operator—one step farther away from the old hemlock engine days.



Recording Unit in belt house compiling a 24-hour graphic record of all drilling operations

Literature and complete information gladly sent upon request

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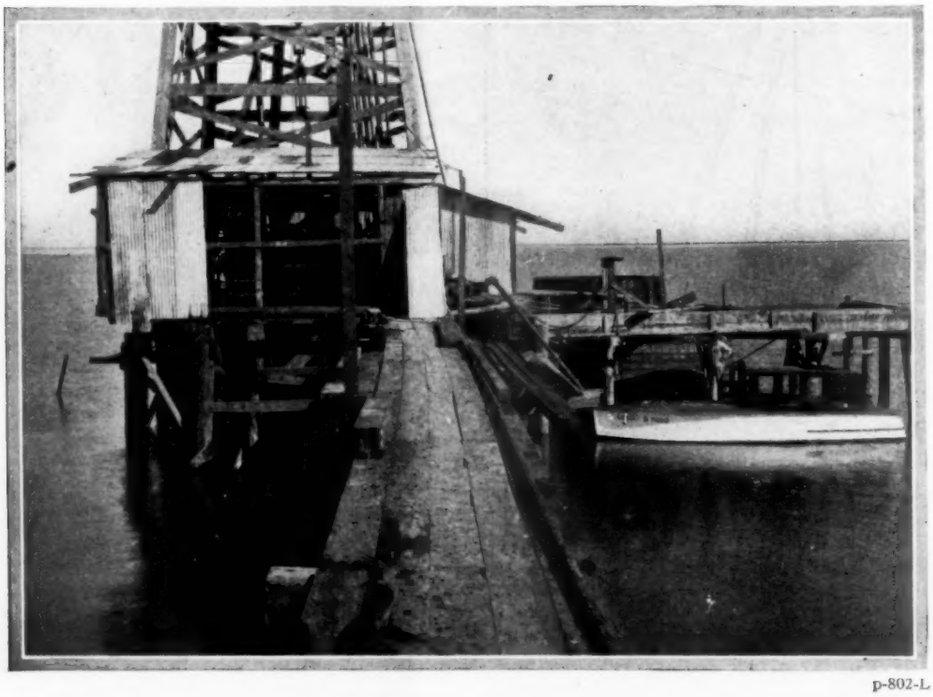
Waukesha - Driven Portable Rotary Rig out in Calcasieu Lake, Louisiana.



p-802-L

Where Steam Fails

Drilling out in a salt water lake nine miles from the nearest landing and forty from the nearest railroad is no slouch of a job. It requires conveniently portable equipment that uses little or no fresh water, and fuel that can be easily transported--gasoline in drums.

Waukesha heavy-duty oil field equipment is used on this job. A 125 H.P. Waukesha "Ricardo Head" four-cylinder Oil Field engine provides the power. This may be operated on natural gas as well as gasoline. It can be operated where water is so scarce that drilling with steam would be an impossibility. Only fresh water sufficient to keep the engine cool is needed to maintain continuous twenty-four hour operation. Its portability makes it easy to move from one job to another. This engine drives a 2500 foot type Portable Rotary Rig, and draw works. For further information write for Oil Field Bulletin No. 629.

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NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Casing Pulling Machine

THE THRIFT CORPORATION

The Trift Corporation, Houston, announces a new hydraulic casing pulling machine adaptable to any size truck.

The outfit consists of a six-cylinder hydraulic pump, operated by the truck motor by means of a power take-off equipped with sprockets and chains, thereby using the motor power of the truck for the operation of the machine as well as for transportation.

The hydraulic pump is especially designed to meet the need for high pressure hydraulic use, delivering a large volume of fluid to the hydraulic jacks, which are set on each side of the pipe or casing to be recovered, and suspended below the surface of the ground by means of arch bars and through a bottom major ring. An additional major ring is set on top of the jacks, resting on jack caps, and steel casing or pipe slips are set in both bottom and upper major rings, and as the jacks are elevated by the action of the pump the slips grip the pipe or casing and same travels with the jacks. The fluid is released when the jacks have traveled their full length, by an especially designed control valve placed near the operator, and the jacks drop back for another elevation, the pipe or casing in the downward action of the jacks being held in suspension by the slips in the bottom major ring.

A small size pump has been designed to use for recovering pipe where pipe and casing strings are short. Three and three and one-half hydraulic telescope jacks are used, making possible the recovery of pipe that has been standing in a well for years, it is said.

The high pressure control is designed to operate in connection with the pump and jacks, allowing the operator to have full control of the pressure applied at all times. This control valve is mounted close to the pump and has a hydraulic pressure gauge connected to it in order that the operator can know at all times how much pressure he is delivering to the jacks.

The assembly of arch bars, major rings, and slips are constructed of steel castings with a tensile strength to withstand any pressure desired for pulling casing. Both upper and lower major rings are constructed so as to handle any size of pipe or casing by adding a sub-ring or another size slip.

The telescope design jack has double elevating capacity. The inside steel plunger has an elevation of three feet, eight inches, while the larger steel cylinder has an equal range. The jacks have a lifting capacity of 200,000 pounds and are so constructed as to permit operating a small steel plunger working independent of the other, thereby giving more speed and greater lifting capacity as may be required.

Additional data may be had by writing the company, at Houston.

"Quick Work with Quikard" is the title of a new house organ recently started by the Ash Grove Lime & Portland Cement Company, of Kansas City, Missouri. The publication describes interesting construction projects in which quick-hardening cement has been used. Quikard, the trade name of the cement made by this company, is used in oil fields and the publication should be of interest to field men. Copies may be secured or names will be added to the mailing list upon application to the company.

Patterson-Ballagh Corporation, 3769 Moneta Avenue, Los Angeles, has published a new folder on the Bettis casing protector. Copies may be obtained by request of the company.

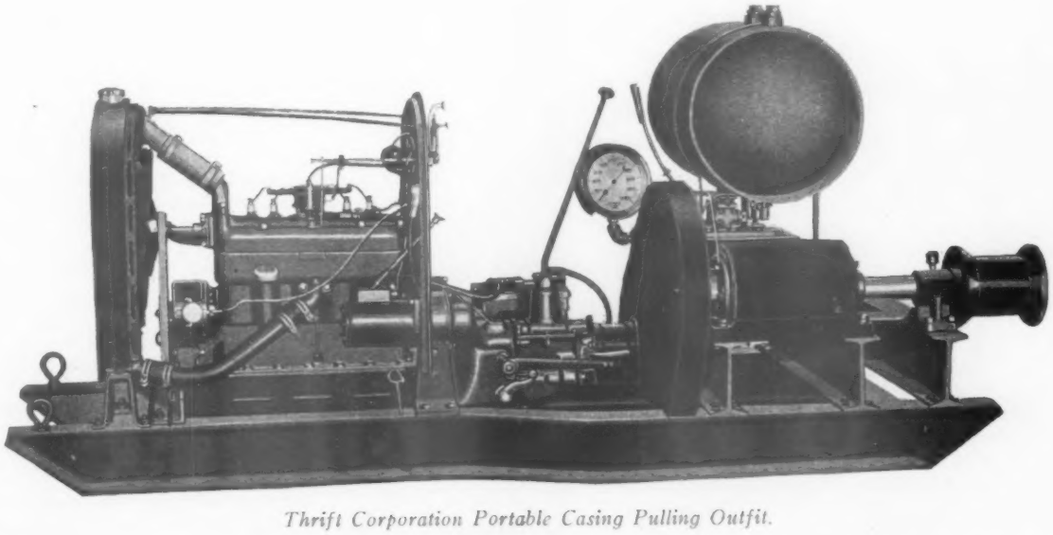
Standard Seamless heat treated drill pipe is described in a new bulletin published by Spang, Chalfant & Company, Inc., Pittsburgh, Pennsylvania. Copies of the bulletin may be had by writing the company.

Northern Valve Company, Utica, New York, is distributing a folder on its products which include gauge cocks, water gauges, etc. Copies of the folder may be had by request to the company.

Zero Hour Torpedo Company, 408 Cosden Building, Tulsa, has released an interesting bulletin on bombing oil wells with the Zero Hour Electric bomb. The publication describes this equipment and its method of application in great detail. Along with this material there is considerable information regarding shooting in the various districts throughout the Mid-Continent. Copies of the booklet may be had by writing the company.

The Oklahoma Steel Castings Company, of Tulsa, has placed a contract for 50x50 ft. extension to its finishing department. The extension will be of steel and brick, mill type construction.

Contracts for the following new equipment for the extension have already been placed: A five-ton overhead electric traveling crane to Shepard Electric Crane & Hoist Company; a 10-ton, gas fired, automatic temperature control, undervented car type annealing oven to Mahr Manufacturing



Thrift Corporation Portable Casing Pulling Outfit.

Company, Minneapolis; electric-control mechanism to Brown Instrument Company, Philadelphia; rotary table and room sand blast, and complete dust arrester equipment to Pangborn Corporation, Hagerstown, Maryland.

Continental Pulling Outfit

CONTINENTAL SUPPLY COMPANY

A new pulling machine called the Continental is being marketed by the Continental Supply Company, and manufactured by the General Machine Company, Wichita Falls, Texas.

The machine is of all-steel construction. The drum is all-steel with a 2½-inch steel shaft extending entirely through it. The brake band is lined with asbestos lining and operates against a machine finished brake wheel.

The outfit telescopes to 26 feet for moving and raising and extends to 39 feet, six inches.

Road wheels do not have to be detached when the outfit is raised, and the rod or tubing line can be removed from the crown sheave without detaching the rod or tubing hook.

Two sizes of the machine are furnished: 2B and 3B. The 2B machine will handle 2000 feet of tubing and the 3B will take care of 3000 feet.

Detailed information may be had from the nearest Continental Supply Companies Store, or from the General Machine Company, Wichita Falls, Texas.

Continental Pulling Machine.

New O. C. S. Pumping Machine

The O. C. S. MANUFACTURING COMPANY

The O. C. S. Manufacturing Company, Coffeyville, Kansas, announces a new product, the O. C. S. drilling and pumping machine. This equipment was designed for cable tool drilling and beam pumping. It is recommended for use on all standard rigs and is especially suitable for deep wells.

The machine is adaptable for both electric motor drive, or gas or steam engine. It provides means for driving bullwheels, calfwheels or chain driven sand reels.

Other features include the O. C. S. self-aligning Timken bearing jackpost boxes and the O. C. S. crank type equalizer or counter-balance.

The illustration shows the outfit electrically driven for either single or twin motors.

More particulars may be had by communication with the company.

Occupy New Building

Los Angeles.—The Oil Well Equipment Corporation of Los Angeles has just moved into its new building, recently completed at 5041 Santa Fe Avenue. The new address is practically across the street from its previous location. The new facilities occupy considerably more space than the older structure, containing, in addition to an attractive art brick office building, a warehouse of large capacity. The improvement, all in all, represents an expenditure in excess of $50,000. A railroad spur serves one side, a truck driveway the other. An overhead traveling crane is available for handling heavy oil field equipment.

The Oil Well Equipment Corporation was founded in 1918 by P. N. Boggs Company. A year later Mr. Boggs disposed of his interests to Charles N. Abbott and A. B. Robinson. The company was then known as the Abbott-Robinson Company until incorporated shortly thereafter as the Oil Well Equipment Corporation. F. B. Clarke is president, F. M. Berry vice-president and treasurer, and R. R. Morris vice-president. These executives have a wide acquaintance in the California oil industry, with which they have been identified for many years. Frank Clarke was a former vice-president of the Lucey Manufacturing Corporation in charge of California operations. He has been with the Oil Well Equipment Corporation practically since its founding. Frank Berry was formerly general purchasing agent for the Union Oil Company and later vice-president for the Union Tool Company at Torrance. Robert ("Bob") Morris had his early experience in the Midway field, where he was district manager for the J. F. Lucey Company, and has been in close touch with California development since that time.

The Oil Well Equipment Corporation is now Pacific Coast distributor for the Lucey line of oil drilling equipment, manufactured by the Lucey Manufacturing Corporation of Chattanooga, Tennessee. A large and complete stock of Lucey rotaries, pumps, boilers, engines, tools, etc., will be carried. All this equipment is of the heavy duty type especially designed for use on California's deep wells. The Oil Well Equipment Corporation is also the distributor of American Seamless Casing, and for Williamsport Wire Lines and numerous miscellaneous oil field supplies.

A set of four boooks covering different phases of industry have just been published by the Caterpillar Tractor Company, San Leandro, California, and Peoria, Illinois. The titles are "'Caterpillar' Power for Public Utilities"; "'Caterpillar' Power for Factories"; "'Caterpillar' Power for Mines and Quarries"; "'Caterpillar' Power for Railroads, Warehouses and Docks". They are completely illustrated with action photographs gathered from "Caterpillar" jobs throughout the world. Copies may be obtained by request from the company.

Worthington Pump and Machinery Corporation, Two, Park Avenue, New York City, has published two new bulletins, one devoted too Worthington centrifugal pumps for general service and the other to Worthington centifugal pumps for pipe line service. Copies of both bulletins may be obtained upon request to the company.

"The Autobiography of a 'Black Beauty' Pole" or the tale of a tree that made a name for itself, is a novel and interesting booklet published by the Texas Creosoting Company, Orange, Texas. In this booklet there is the complete story of the "Black Beauty" poles sold by this company. Copies may be had upon request to the company.

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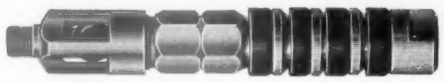

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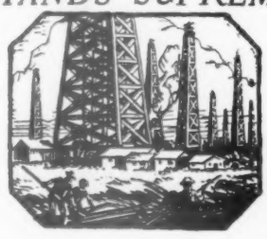

Every step in the production of **Asco Steel** is watched closely. From the selection of the raw materials to the finished product, the first thought always is to produce a steel that will give the best results to the makers of Oil Well Tools. Can we help you to produce better tools?

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and our other seamless steel products, such as drill pipe, tubing, line pipe, etc. But then, small wonder, for every joint is pierced from a solid billet of the finest high-carbon Siemens-Martin steel and fabricated by the world famous Mannesmann-Pilger process. Let our test data convince you.

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SQUEAKS FROM THE BULL WHEEL

The Vapor Phase

(By C. M. Lamason, in Pure Oil News)

There is a ferry down here where they charge you by the length of your automobile. We've already paid three different prices for passage. Evidently salt air is doing something to our car.

—

We now know what is meant by a flow sheet. It is an oil company's financial statement.

—

Our Own Historical Corner

A. D. 1559—Henry the Eighth forces Parliament to recognize the legitimacy of Queen Elizabeth.

Come, till the soil
And grind the sword,
Let every man be busy
The debt is paid,
And Henry's made
A lady out of Lizzie.

—

We do not know whether it is due to the heavy receipts of oil from the tropics or not, but we feel sure that the oil market is suffering from some form of slipping sickness.

—

Where do these automobile manufacturers get the idea that they inaugurated quantity production? It's an old story with us in the oil industry—also a sad one!

—

An executive tells us to control conditions in the oil industry, we must begin at the well. We see it all now—He means birth control.

—

Tom Marshall said this country needs a good five-cent cigar. This country has several of them, but we have to pay fifteen cents for them.

—

We read that Russia's exports of grain are decreasing, while exports of petroleum are increasing rapidly. It is very plan from this that they can realize more by distilling grain than by distilling oil.

—

Great Britain has passed a law prohibiting the transportation of explosives over public highways. What a blow that would be to our bootleggers!

—

For the joke of the month we nominate the one about Hannibal being the greatest naturalist, as he successfully crossed the Alps with elephants.

—

Our Monthly Limerick

There was a young chap fresh from Harvard,
Who got a job on a rig as a tool dresser.
When asked why he did it
He said, "Damned if I know"
(This don't rhyme, but—Imagine a Harvard man being a tool dresser!)

Backward, turn backward, Oh Time in thy flight
To the days when the oil business seemed quite all right,
And tell us, please tell us, Oh Time, if you can
Who started this stuff about Supremacy of Man.

—

Mrs. Stuyvesant Petersby Wook, well-known society leader, was found in her apartment bound and blindfolded today. Four men came in, put her in a chair and tied a towel over her eyes, she said, after which they ransacked her home.

Mrs. Wook admitted to the police that she submitted without a struggle and made no out-cry until the robbers had completed their work and left.

"I thought," she explained, "that it was one of those cigarette tests!"

—

Jule—"Who was George Washington?"
Helen—He's the fellow whose wife makes candy.

—

Wife: "Oh, you needn't think you're so wonderful. The night you proposed to me you looked absolutely silly!"
Husband: "A coincidence. The fact is, I was absolutely silly."

—

A small boy had acquired a habit of swearing. For this reason he became unpopular with the mothers of other children and was often sent home from youthful gatherings in disgrace.

He returned one evening half an hour after he had set out to a party, and his father, assuming the usual cause, asked no questions, but chastised him with vigor.

"And now," he said, "what was it you said? Why did they send you home this time."

"They sent me home," replied the smarting child, "because the dam party's tomorrow night."

—

What's the charge, officer?
Arson, your honor, burning up the road.

—

Read This Out Loud

Before they were married, he whispered to her: "Were I drowning in the middle of the Atlantic Ocean—going down for the third time—you would be the last person I'd think of." It made her feel happy.

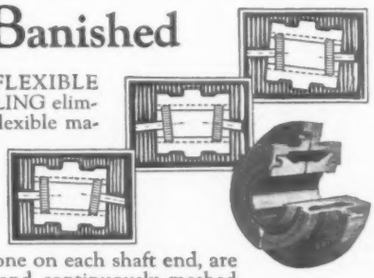
After they had been married several years he made the same speech. It didn't seem to have the same meaning then. Besides, she didn't like the way he said it. So she hit him with a plate.

—

"Bejabers," roared Pat, menacingly, "Oi was born an Orishman, O'm living an Orishman, and Oi'll die an Orishman."

"Vell," said Abie, "have you no ambition?"

Coupling Shut-downs Banished



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The inevitable result is that Buckeye will continue, as engineers and contractors put it, "the *only* ditcher that will meet *all* oil field requirements."

Naturally, only oil men can *fully* appreciate these profitable Model 32 working features: Practically *all-transmission* control; power, steering, 16 digging speeds—18″ to 19′ per minute; 2 digging-wheel speeds; traction brakes for operation on steep grades; and heavy duty industrial motor.

Many others—ask for complete description and prices.

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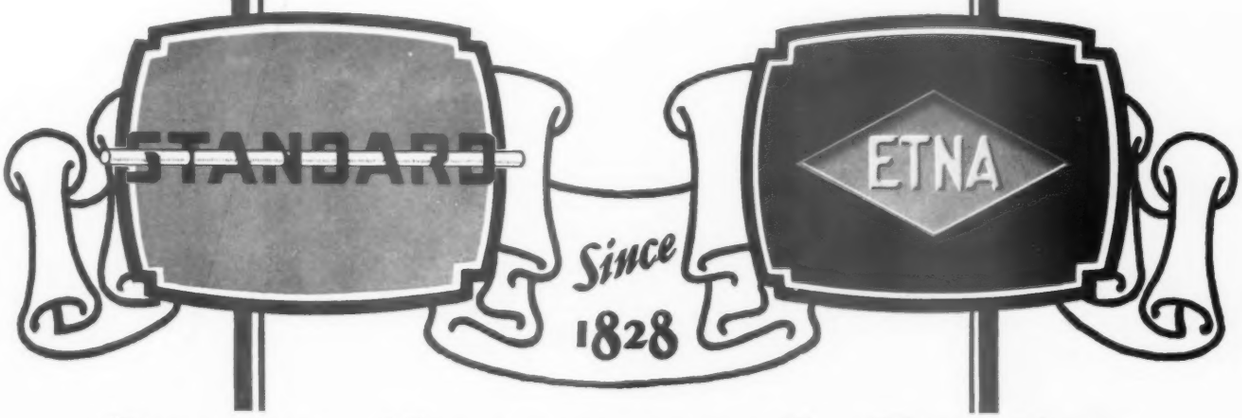

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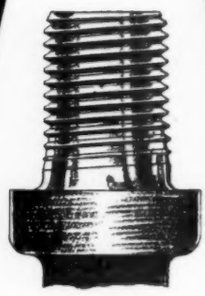

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